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Sponsor Contact Person (s):

Technical Matters
(Contracting Officer's Authorized Representative (COAR))
Zolton R. Rosztoczy
Division of Systems Safety
U. S. Nuclear Regulatory Commission
Washington, DC 20555

NOTE: COAR changed per Mod. No. 1

Contractual Matters
(thru OCA)
(Contracting Officer)
D. J. Dougherty, Chief
Technical Assistance Contracts Branch
Division of Contracts
Office of Administration
U. S. Nuclear Regulatory Commission
Washington, DC 20555

William B. Menczer, Contract Specialist,
301-427-4480

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DETERMINATION OF CORRECT FORM FOR

TASK 1: CORRELATING THE TONG F. FACTOR

DETERMINATION OF CORRECT FORM FOR

TASK 1: CORRELATING THE TONG F. FACTOR

Final Report

September 29, 1978 - November 30, 1978

R. W. Carlson   Ali Razban
L. E. Weaver

School of Nuclear Engineering
Georgia Institute of Technology
Atlanta, Georgia 30332

Prepared for

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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
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ABSTRACT

The series of measurements of the critical heat flux that were performed by Combustion Engineering to support the CE-1 correlation for use when the axial heat flux was nonuniform has been studied. The combination of the CE-1 correlation and Tong's F factor does not correlate this data well. The source of the disagreement has been traced to the problems encountered when using parts of two different correlations. The source of the disagreement has been suggested to be related to the formulation of the quality dependence within the CE-1 correlation although this cannot be confirmed by the present studies.

TABLE OF CONTENTS

Abstract. iii

List of Figures vi

List of Tables. vii

1. Introduction 1

2. COBRA Model. 1

2.1 Geometry. 1
2.2 Modeling Constants. 5

3. CHF Correlation. 10

4. Results and Conclusions. 19

5. Conclusions. 29

Appendixes

A. COBRA Input. 30
B. COBRA-IIIC Calculation Results 36

LIST OF FIGURES

Figure 2.1	Flow Channels for COBRA Model.	3
Figure 2.2	Flow Changes Resulting From 15 Channel Model	4
Figure 2.3	Effect of Axial Node Length.	6
Figure 2.4	Effect of Turbulent Mixing Factor.	8
Figure 2.5	Effect of Diversion Cross Flow Resistance Factor . .	9
Figure 3.1	CE-1 CHF Correlation at 2250 Psia.	12
Figure 3.2	CE-1 CHF Correlation at 2415 Psia.	13
Figure 3.3	CE-1 CHF Correlation at 1785 Psia.	14
Figure 3.4	Comparison of CE-1 and W-3 Correlations at 2250 Psia	15
Figure 3.5	Comparison of CE-1 and W-3 CHF Correlations at 2400 Psia	16
Figure 3.6	Comparison of CE-1 and W-3 CHF Correlation at 1785 Psia	17
Figure 4.1	Comparison of Measured and Predicted CHF Using CE-1 Correlation with Tong's F Factor	20
Figure 4.2	Variation of CHF Prediction with Quality	21
Figure 4.3	Variation of CHF Prediction with Mass Velocity . . .	22
Figure 4.4	Variation of CHF Prediction with Heat Flux	23
Figure 4.5	Variation of CHF Prediction with Pressure.	24
Figure 4.6	Variation of CHF Prediction with Equivalent Diameter	25
Figure 4.7	Comparison of Measured and Predicted CHF Using W-3 Correlation with Tong's F Factor	27
Figure 4.8	Difference Between CE-1 and W-3 CHF Correlations . .	28

LIST OF TABLES

Table A.1. 31

Table A.2. 33

DETERMINATION OF CORRECT FORM FOR CORRELATING THE TONG F-FACTOR PURPOSE

1. Introduction

The power production in a nuclear reactor is limited by the heat flux that can be transferred from the fuel rods to the coolant without causing boiling that is so violent that the fuel rods become covered by steam and lose their ability to transfer heat. The Critical Heat Flux is difficult to predict because it cannot be determined theoretically. As a consequence all of the data that describes the onset of CHF is empirical and correlations have been developed to span the regions between data points and to remove the statistical variation between data points. These correlations are not simple functions but rather are complicated expressions that include correction factors to account for all of the possible variations of conditions within a reactor.

One of the important facets of the correlations is the use of local conditions for the representation of the flow and coolant properties at the point of CHF. This introduces a substantial complication into the correlation since the local conditions cannot be measured as part of the experimental determination of CHF but, rather have to be inferred from numerical calculations of the flow distribution. The computer program COBRA or one of the similar programs that is available has been employed for this function by all of the investigators that are working in this field. This project is to examine the data that has been measured by Combustion Engineering at the Heat Transfer Facility of Columbia University to independently evaluate the goodness of fit between the correlation and the measured data. The program COBRA-IIIC shall be employed for the calculations of the local flow conditions in this study. This program has been shown by several authors to reproduce the measured data that is available for flow distribution and enthalpy distribution for flow parallel to an open array of heated rods.

2. COBRA Model

The use of COBRA-IIIC to determine the local flow conditions at the point of critical heat flux requires the development of a model to represent the experiments that were performed. Varying the inlet conditions will permit calculation of the local conditions for all of the experiments. There are two types of decisions that must be made during the development of the model which are the choice of geometry and the choice of the values for the constants within the COBRA-IIIC program.

2.1 Geometry

The choice of the geometric modeling to be used requires the selection of the node size parallel and perpendicular to the flow. These choices represent a compromise between precision and economics since smaller node sizes require longer run times and higher cost.

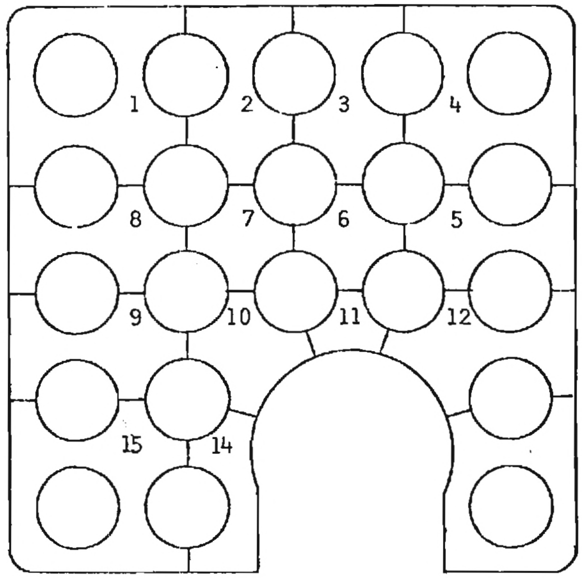
The node size in the transverse direction is controlled by the number of flow channels. It is customary to select the channels such that each channel is bounded by parts of four heater (or fuel) rods and the width of the connection between channels is minimized. This is based primarily on historical precedent because the experimental data on flow distribution has been used to establish modeling constants rather than challenge the modeling assumptions. Utilizing this definition of a flow channel results in 34 flow channels and 54 channel connections to represent either of the two basic geometries. A single case with this geometry required over 2000 seconds of central processor time to execute.

Examination of the location of critical heat flux in the experiments indicates that the modeling precision can be reduced in the peripheral flow channels. A second model where the peripheral flow channels and the adjacent channels have been combined reduces the number of flow channels to 15 and the channel connections to 21. A single case with this geometry required about 250 seconds of central processor time and considerably less storage. The channel definitions for this model are shown in Fig. 2.1 for both experimental configurations.

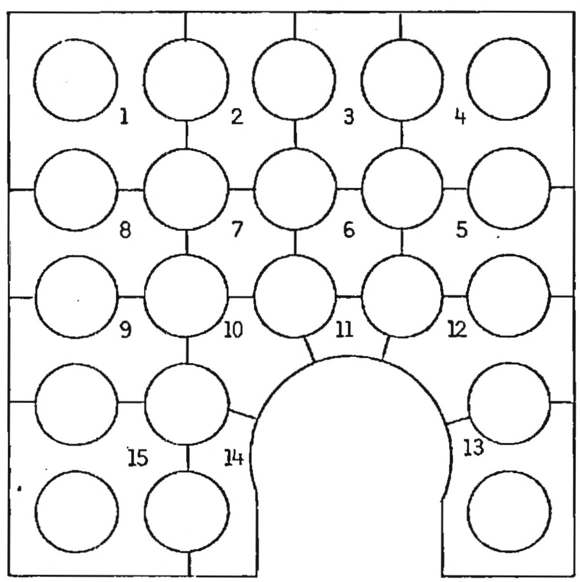
Experiments were performed to determine the critical heat flux in two types of geometries representing fuel assemblies with 14 × 14 and 16 × 16 arrays of fuel rods. The arrays are similar and only the dimensions are different between the two experimental configurations. Models were developed to represent both configurations; however, the model testing and sensitivity studies were restricted to only the 16 × 16 test geometry. The conclusions regarding the modeling decisions are equally valid for the other test geometry because of the similarity between the two flow geometries.

Before adopting the smaller model it is necessary to compare the results of the calculations to assure that the model does not introduce any bias into the calculations. The fractional difference in the flow in each flow channel is presented in Fig. 2.2 for one case with the 16 × 16 array of heater rods. The 34 channel case was taken as the more correct calculation for formulation of the fractional differences. The largest difference is 3.5%. The largest differences occur in the peripheral flow channels and rapidly diminish for the central flow channels. The deviations occur because of the elimination of the flow variations in the peripheral flow channels which result from the added flow resistance of the experiment boundary. Combining this resistance with one of the interior channels reduces its impact; however, the flow pattern in these experiments is sufficiently uniform (maximum flow variation is 5%) that the modeling differences are small and tolerable.

These flow differences correspond to a 1% change in the critical heat flux using the CE-1 correlation. Since the change in the critical heat flux is small the 15 channel model shall be employed for the remainder of the analyses.

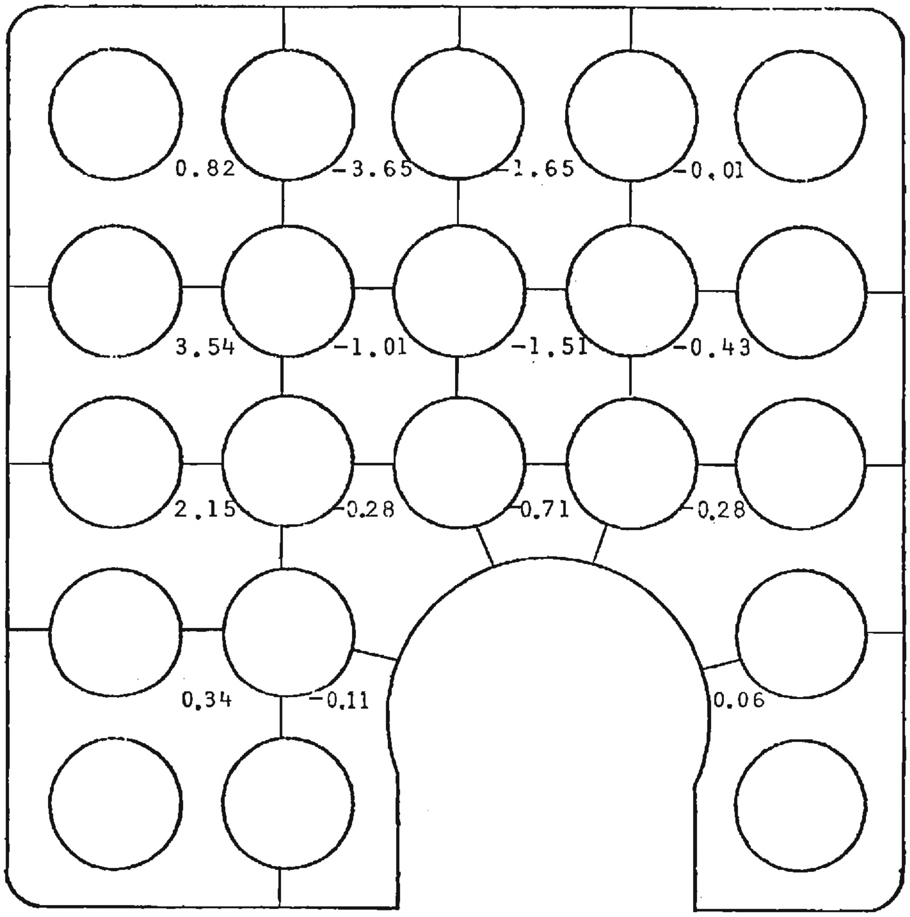


16 × 16 Array Experiments



14 × 14 Array Experiments

Figure 2.1 Flow Channels for COBRA Model



Note: The number in each channel is the fractional change in the flow in that channel in %.

Figure 2.2 Flow Changes Resulting From 15 Channel Model

The second element in the geometric description of the model is the axial length of the nodes. COBRA-IIIC employs difference approximations to first order differential equations to calculate the flow and enthalpy within the experiment. The length of the axial node controls the accuracy of the numerical approximations to the derivatives. The significance of the axial node length is presented in Fig. 2.3 where the node length was varied for one specific case. The calculated results are insensitive to the axial node length because of the uniformity of the flow distribution. In this instance the difference equations reduce to the derivative being equal to a constant which can be accurately solved for any node length. When the property and flow interchange between channels becomes significant this conclusion will be invalid, but for these calculations an axial node length of 2.5 inches will be employed as a compromise between the demonstrated lack of need for precision and a desire to preserve the ability to represent flow interchange between channels if it should become important.

2.2 Modeling Constants

COBRA-IIIC employs many correlations to provide numerical values to describe physical processes. These include pressure loss coefficients, heat transfer coefficients and two-phase flow parameters. These are well documented in the literature and need not be considered further. However, two constants are important to this study because they control the representation of flow mixing within the experiment.

Turbulent mixing is flow interchange between channels without any net diversion of flow and is intended to represent the effects of the turbulence of the flow. The correlation employed to represent the turbulent mixing is:

$$\omega'_{ij} = \beta\, S_{ij} \left(\frac{m_i + m_j}{A_i + A_j} \right)$$

where

- ω' is the turbulent mixing
- S is the width of the gap connecting channels
- β is an empirically determined constant
- m is the coolant flow rate
- A is the flow area
- i and j are channel identifiers

The constant β is user specified and cannot be measured directly in an experiment. Rather, the valve is derived by best fit between calculations and measured exit conditions.

Similarly, the diversion cross flow is controlled by a user specified constant. Diversion cross flow is the interchange between flow

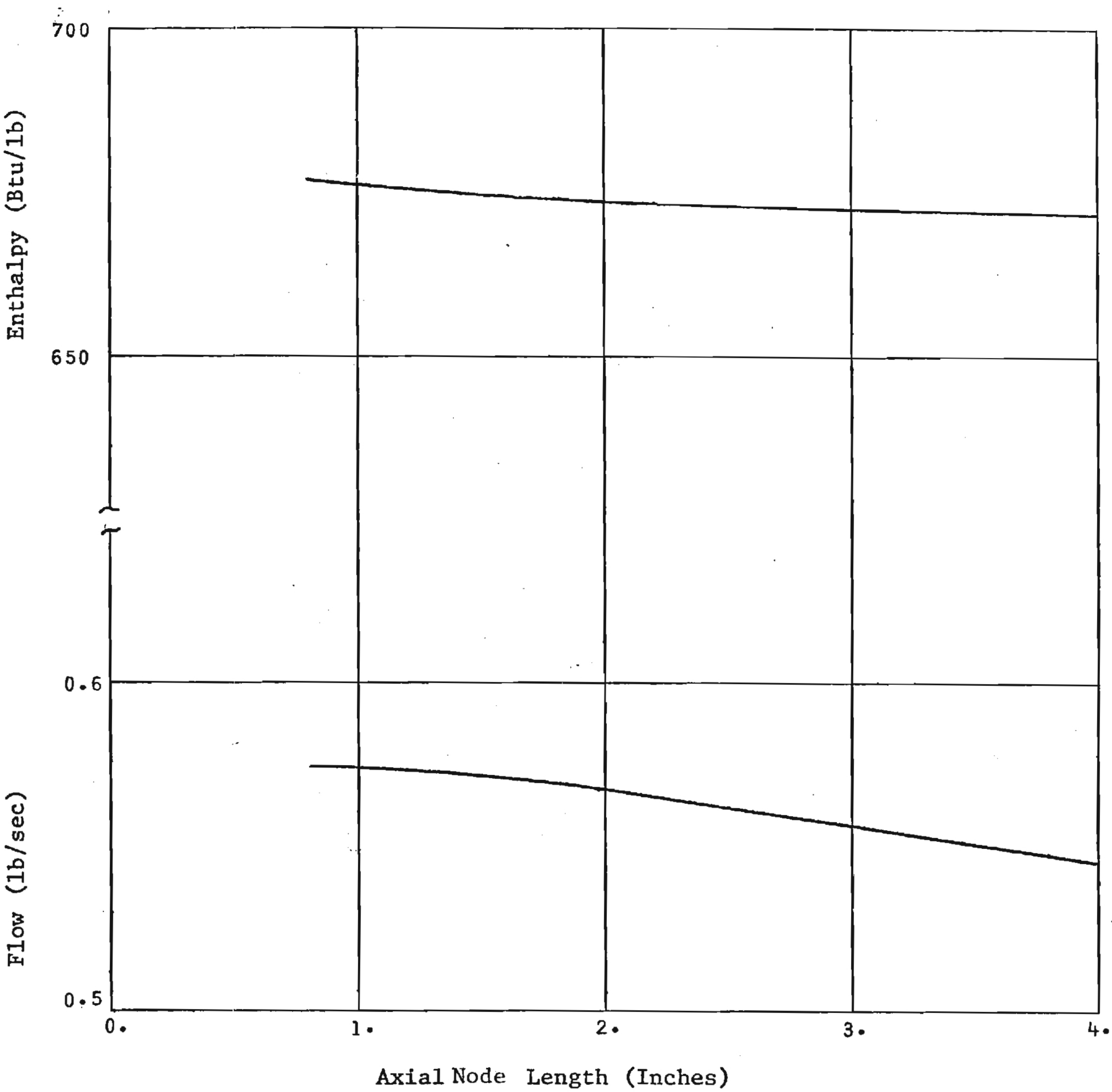


Figure 2.3 Effect of Axial Node Length

channels that is required to balance the pressures in the channels. In this instance the cross flow is directional. The diversion cross flow is represented as:

$$C_{ij}\ \omega_{ij} = |\omega_{ij}| = p_i - p_j$$

where

- ω is the diversion cross flow
- p is the pressure
- C is the pressure loss coefficient which includes as factor K_{ij} which is an empirically determined constant
- i and j are the channel identifiers

To study the impact of these constants on the calculated local flow conditions two series of cases were executed. In the first β was varied to parameterize the effect on the flow and enthalpy at a typical location of CHF in the experiments. The results of these cases are presented in Fig. 2.4. The second series of cases varied K_{ij} and the results are presented in Fig. 2.5. In both instances the impact of these parameters is small because of the freedom from restricted flow channels in the vicinity of the location of CHF. If one or more flow channels near the point of CHF were restricted then the flow interchange between channels would be more important and these two parameters would have a substantial impact.

A copy of the complete input for two cases is presented for reference in Appendix A. All of the cases reported here are identical to one or the other of these two samples with two exceptions. The first is the inlet conditions specified in card group 9 which were changed to model each case independently and the second exception is the changing of the axial heat flux distribution to correspond to the five different power distributions employed in the experiments.

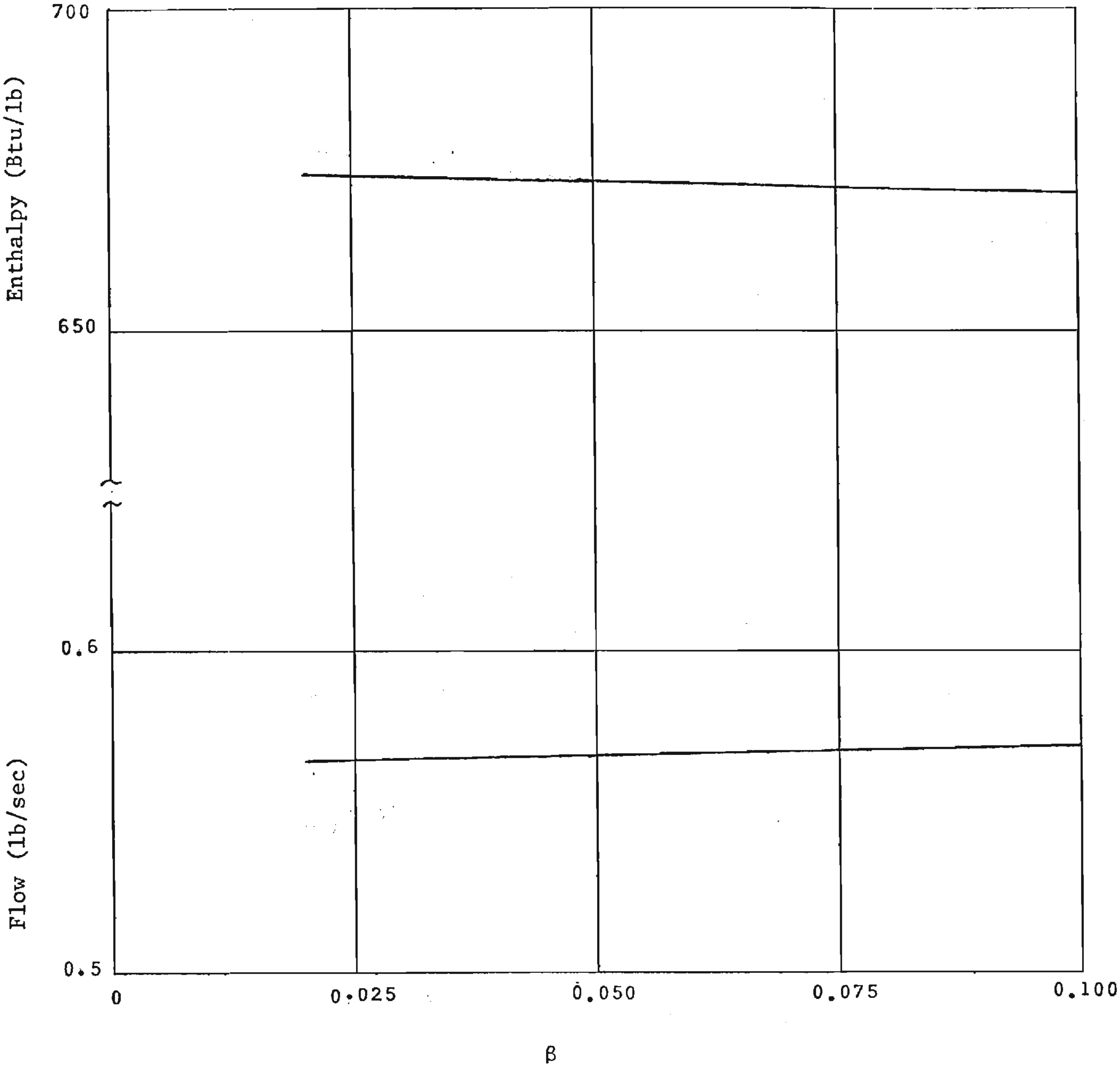


Figure 2.4 Effect of Turbulent Mixing Factor

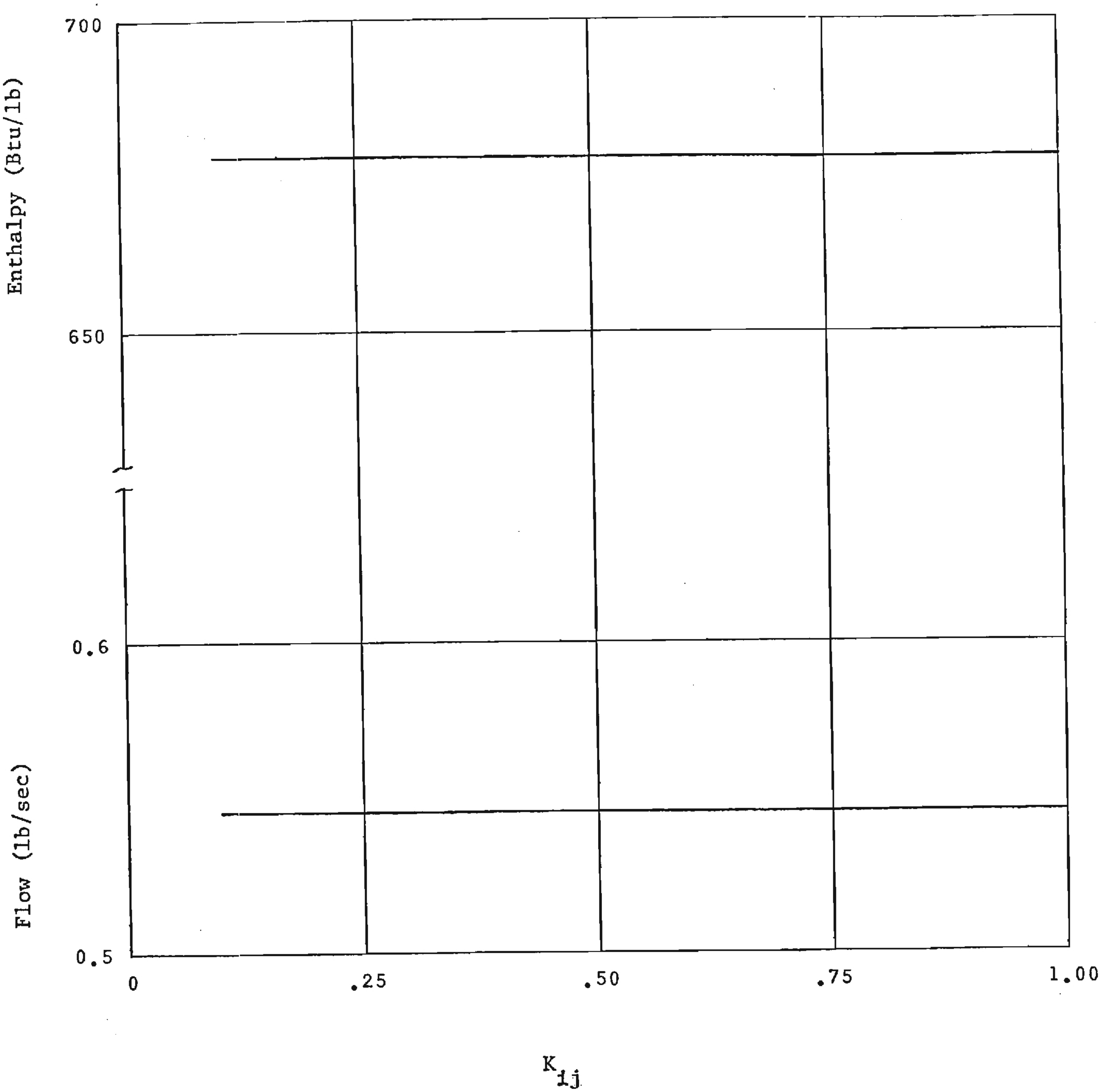


Figure 2.5 Effect of Diversion Cross Flow Resistance Factor

3. CHF Correlation

In support of the design of power reactors Combustion Engineering has developed a correlation that predicts the onset of critical heat flux. This correlation, referred to as the CE-1 correlation, represents a large number of experiments. The correlation is given by:

$$\frac{q''_{CHF}}{10^6} = \frac{b_1\left(\frac{d}{d_m}\right)^{b_2}\left[(b_3 + b_4P)\left(\frac{G}{10^6}\right)^{(b_5 + b_6P)} - \left(\frac{G}{10^6}\right)(x)(h_{fg})\right]}{\left(\frac{G}{10^6}\right)^{(b_7P + b_8\,G/10^6)}}$$

where q''_{CHF} = critical heat flux, BTU/hr-ft^2

P = pressure, psia

d = heated equivalent diameter of the subchannel, inches

d_m = heated equivalent diameter of a matrix subchannel with the same rod diameter and pitch, inches

G = local mass velocity at CHF location, lb/hr-ft^2

x = local coolant quality at CHF location, decimal fraction

h_{fg} = latent heat of vaporization, BTU/lb

The coefficients appearing in the above expression were determined by nonlinear least-squares regression analysis using local values of G and x which were calculated by including the effects of flow redistribution within the array of rods. The coefficient values obtained from the regression analysis are given by:

$$b_1 = 2.8922 \times 10^{-3}$$
$$b_2 = -0.50749$$
$$b_3 = 405.32$$
$$b_4 = -9.9290 \times 10^{-2}$$
$$b_5 = -0.67757$$
$$b_6 = 6.8235 \times 10^{-4}$$
$$b_7 = 3.1240 \times 10^{-4}$$
$$b_8 = -8.3245 \times 10^{-2}$$

The ranges of the primary variables that was employed when determining the CE-1 correlation is as follows:

pressure (psia)	1785 to 2415
local coolant quality	-0.16 to 0.20
local mass velocity (lb/hr-ft^2)	0.87×10^6 to 3.21×10^6
heated length (inches)	84, 150
subchannel wetted equivalent diameter (inches)	0.3588 to 0.5447
subchannel heated equivalent diameter (inches)	0.4713 to 0.7837
matrix subchannel heated equivalent diameter (inches)	0.4713 or 0.7837

The form of the correlation suggests that it is the result of a least squares polynomial fitting process with minimal theoretical support for the choice of the terms. Consequently, this correlation is valid within the range of the experiments and is very uncertain outside the range of the experimental parameters. This is universally true of all correlations of experimental data; however, it is more important where the form of the correlation was chosen only to represent the data.

To gain some insight into the characterists of the CE-1 correlation it was evaluated as a function of the local quality for a number of different conditions. These results are presented in Figs. 3.1, 3.2 and 3.3. In each of these figures the local mass velocity is parametrically varied throughout its range of validity. Figure 3.1 represents the correlation at a nominal coolant pressure and Figs. 3.2 and 3.3 represent the correlation at the upper and lower limits of validity for the pressure.

The CE-1 correlation is a smoothly varying function of both quality and mass velocity as is to be expected for a polynomial fit. However, there is a nodal point in the correlation at high pressure where the effect of the mass velocity is almost nonexistant. This behavior is not expected; however, it is not possible to confirm or deny the validity of this behavior, it is merely being noted.

As confirmation of the validity of the correlation a comparison was made to the W-3 correlation which also characterizes uniform axial heat flux experiments. This is a comparison between correlations and is not capable of confirming or denying the validity of either correlation; however, both correlations are representing the same phenomena so the correlations should give similar results. A plot of the value of the W-3 correlation as a function of the value of the CE-1 correlation is presented in Fig. 3.4, 3.5 and 3.6. As in the previous figures the local quality and mass velocity were parametrically varied. Figure 3.4 represents the comparision for a nominal pressure while Figs. 3.5 and 3.6 compare the correlations at pressures representing the upper and lower bounds of validity for the two correlations. The W-3 correlation is reported to reproduce the experimental data to

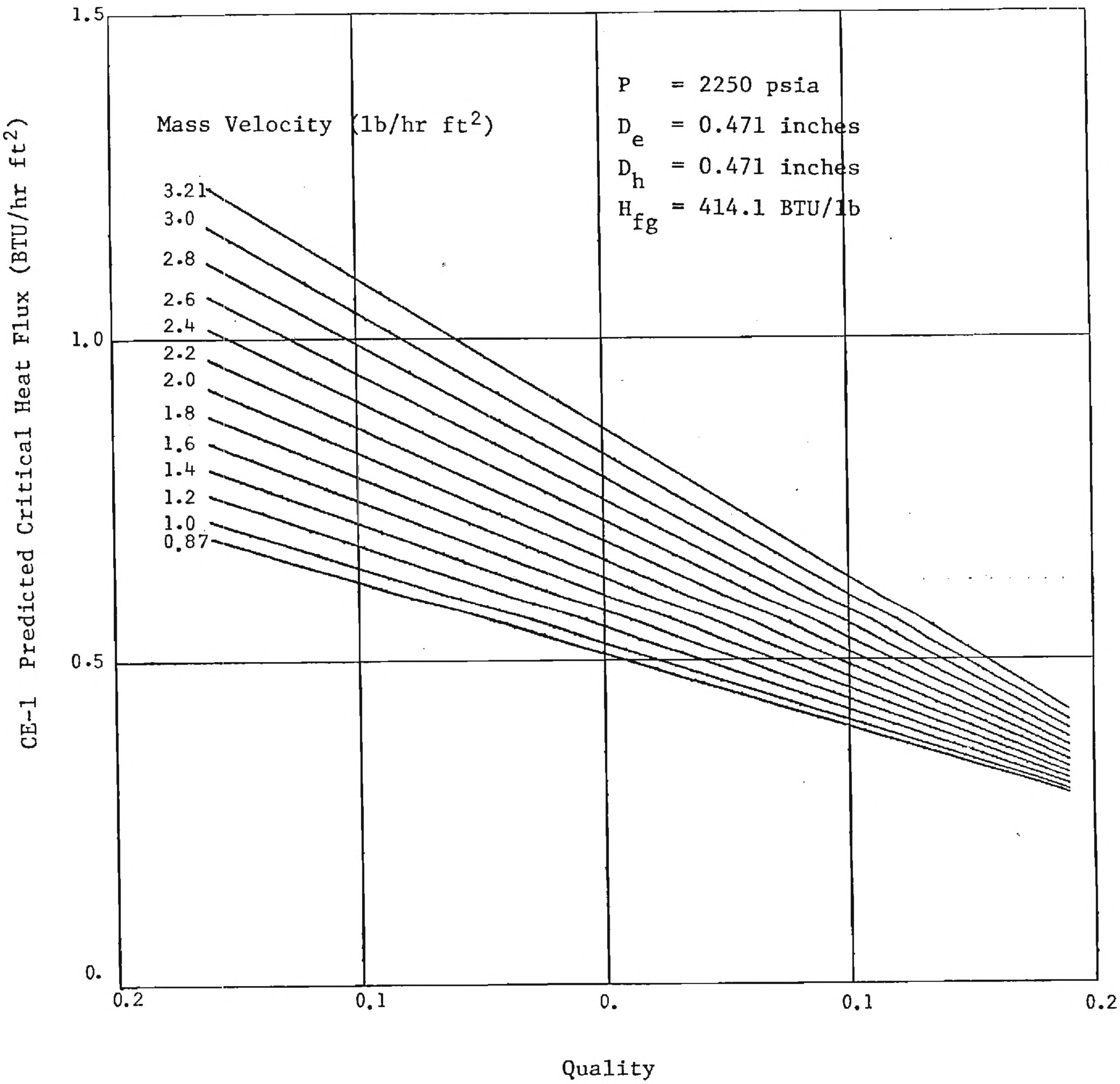


Figure 3.1 CE-1 CHF Correlation at 2250 Psia

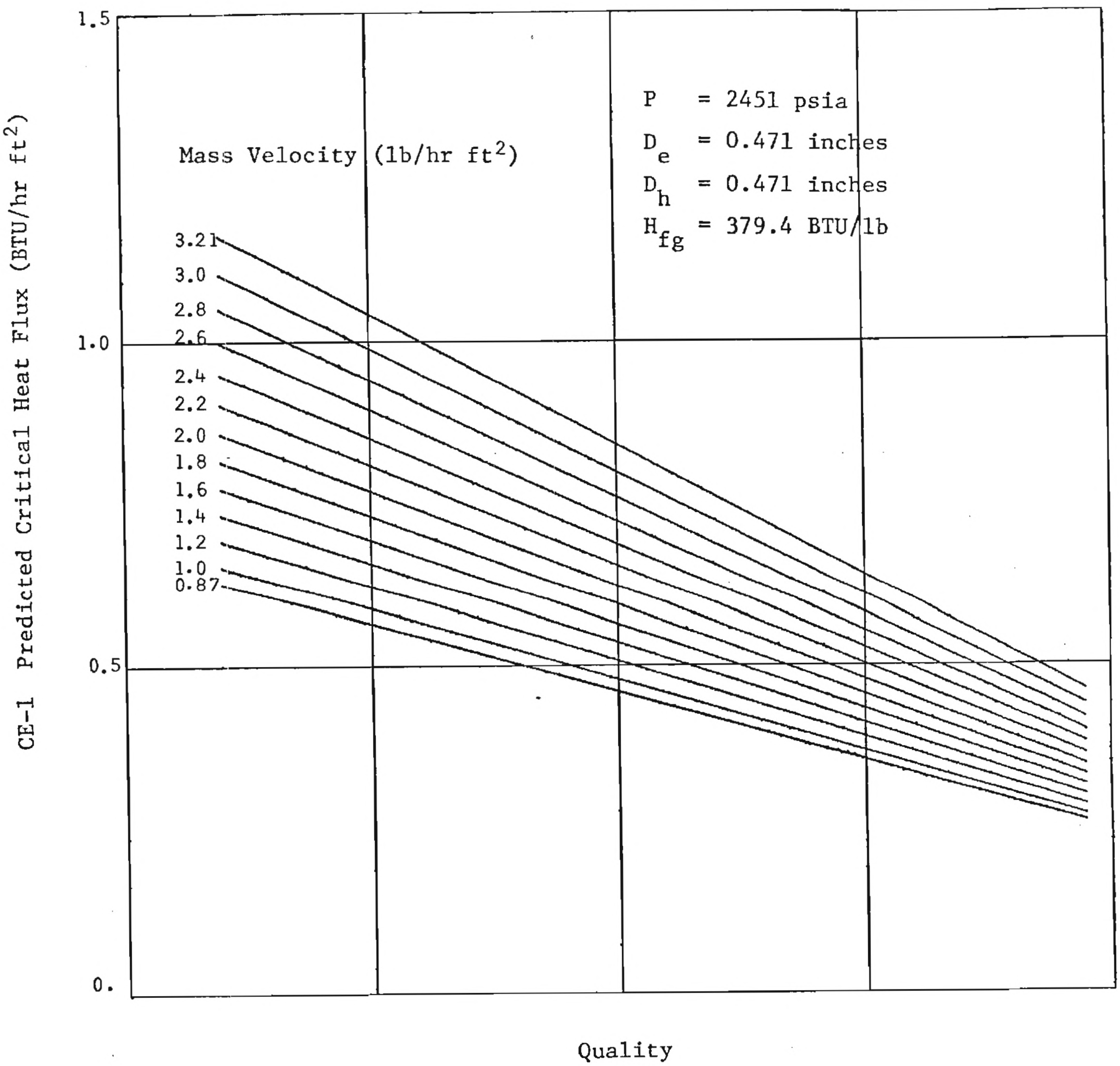


Figure 3.2 CE-1 CHF Correlation at 2415 Psia

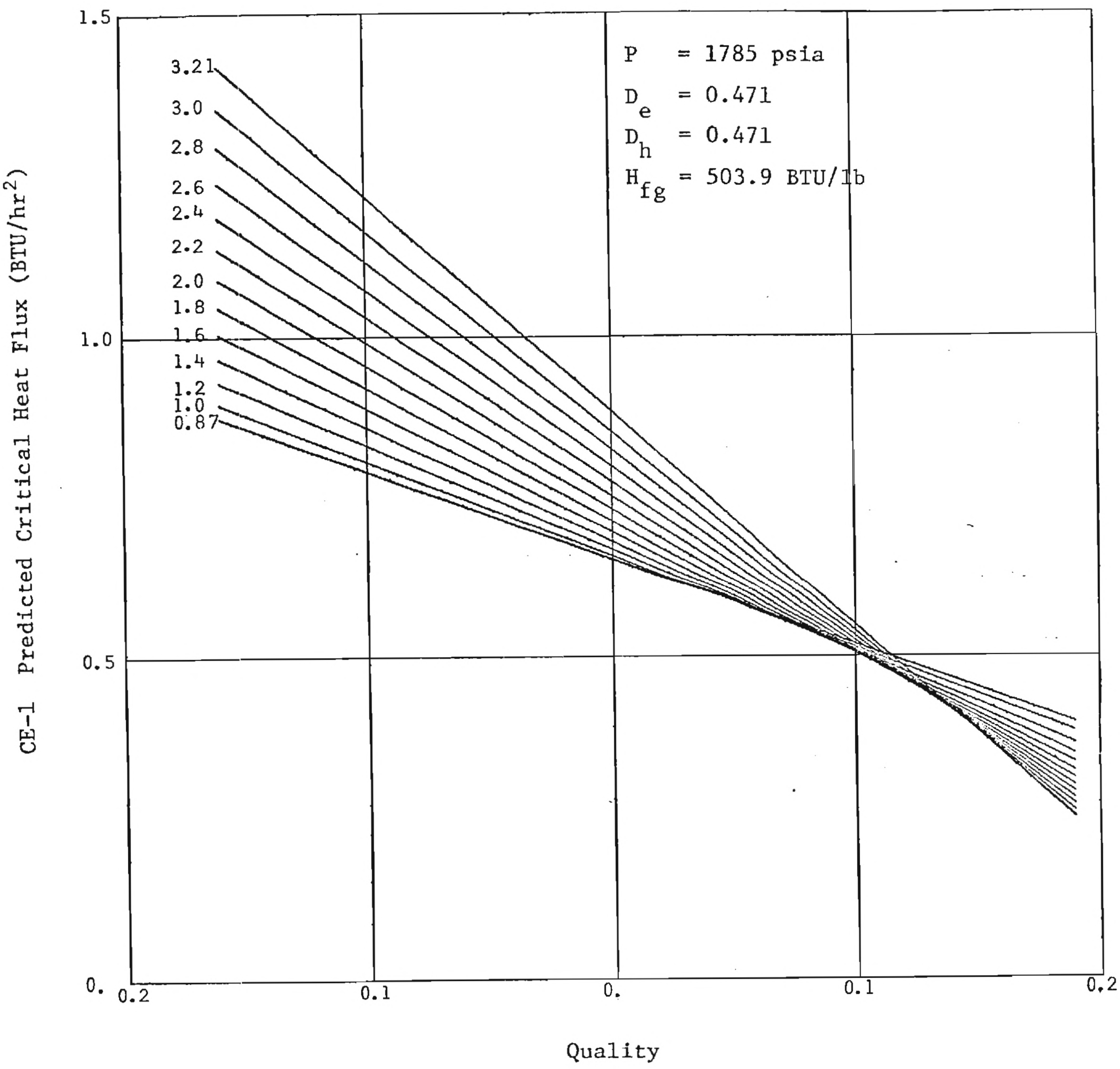


Figure 3.3 CE-1 CHF Correlation at 1785 Psia

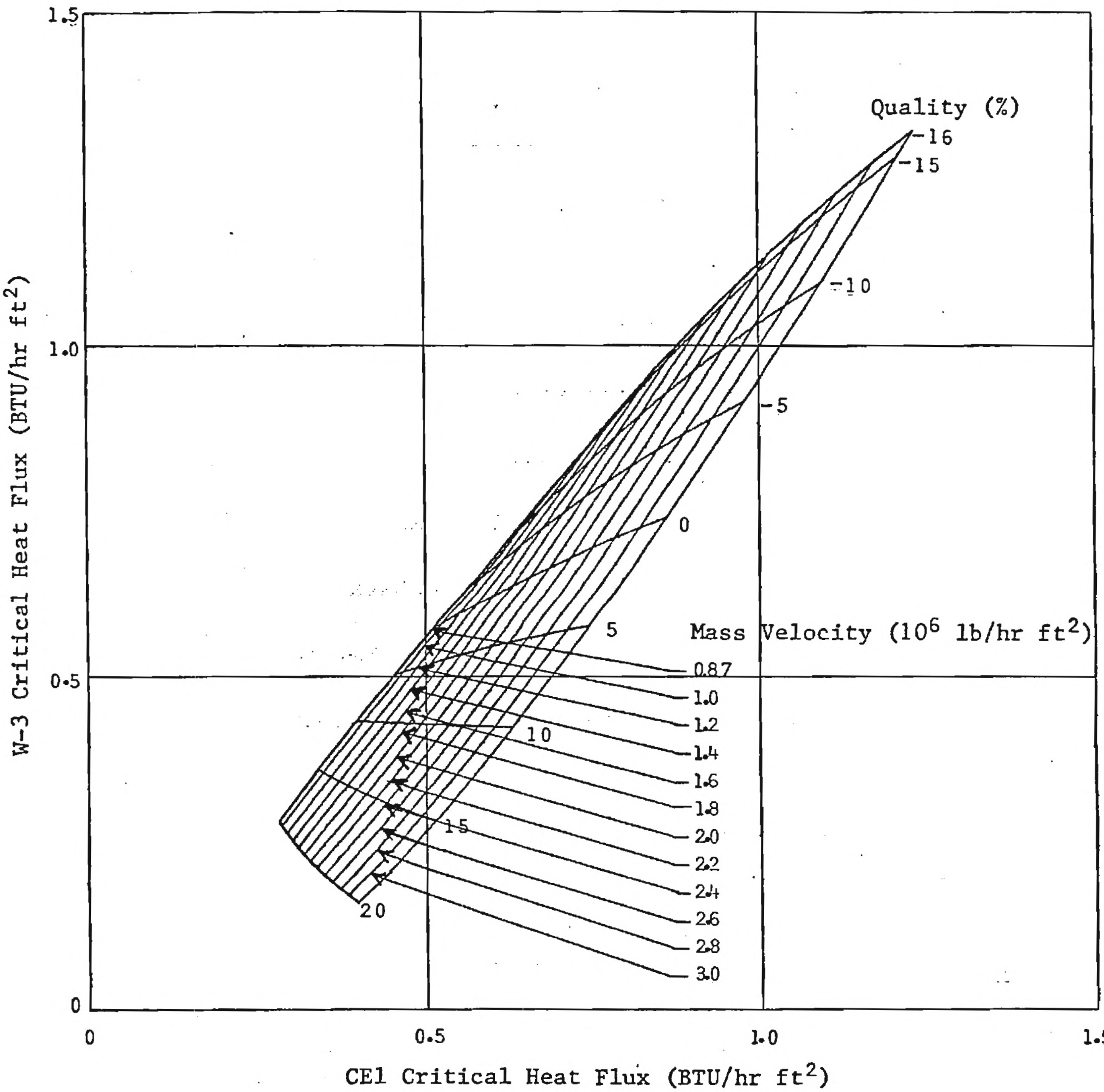


Figure 3.4 Comparison of CE1 and W-3 Correlations at 2250 psia

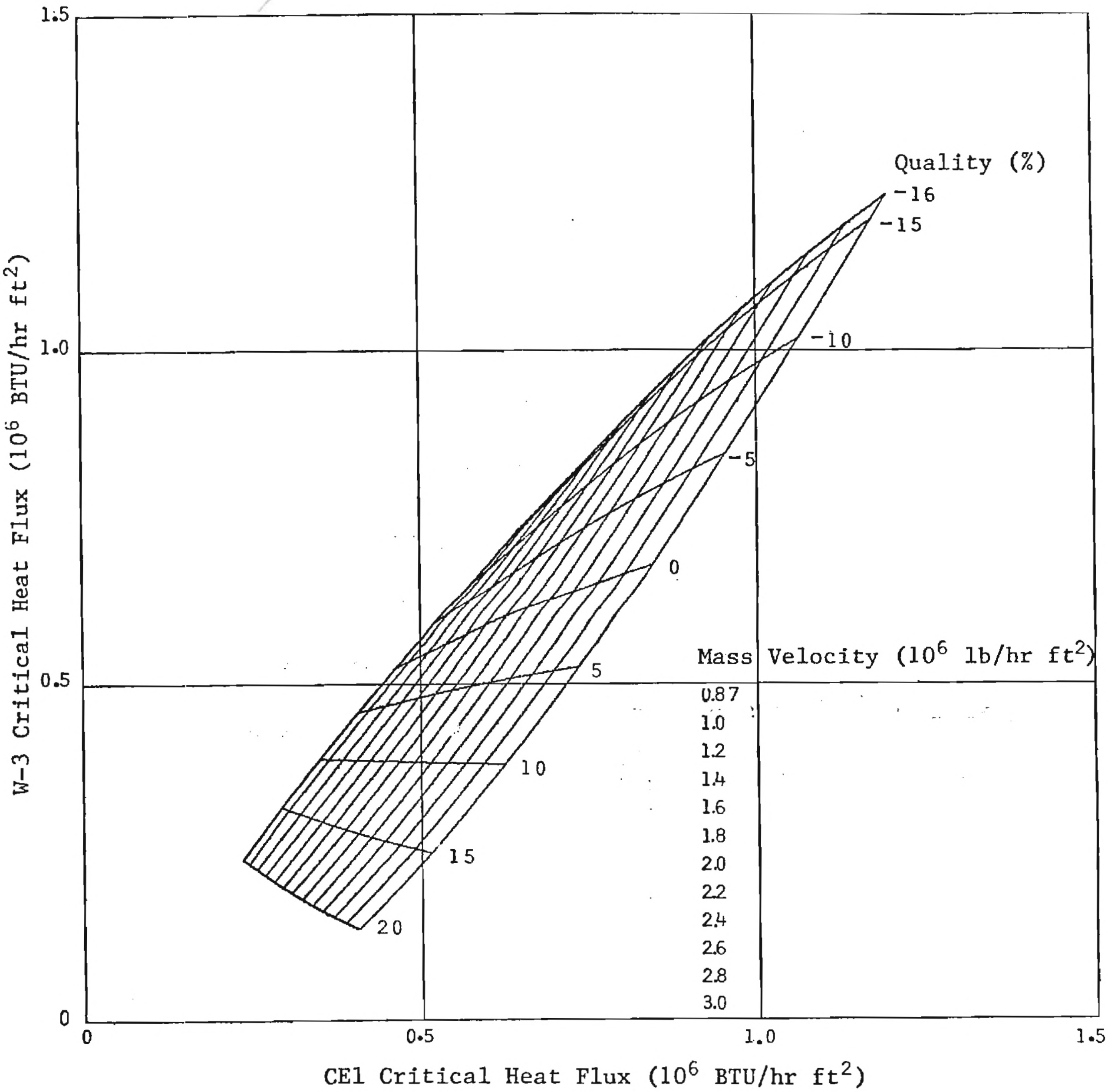


Figure 3.5 Comparison of CE1 and W-3 CHF Correlations at 2400 psia

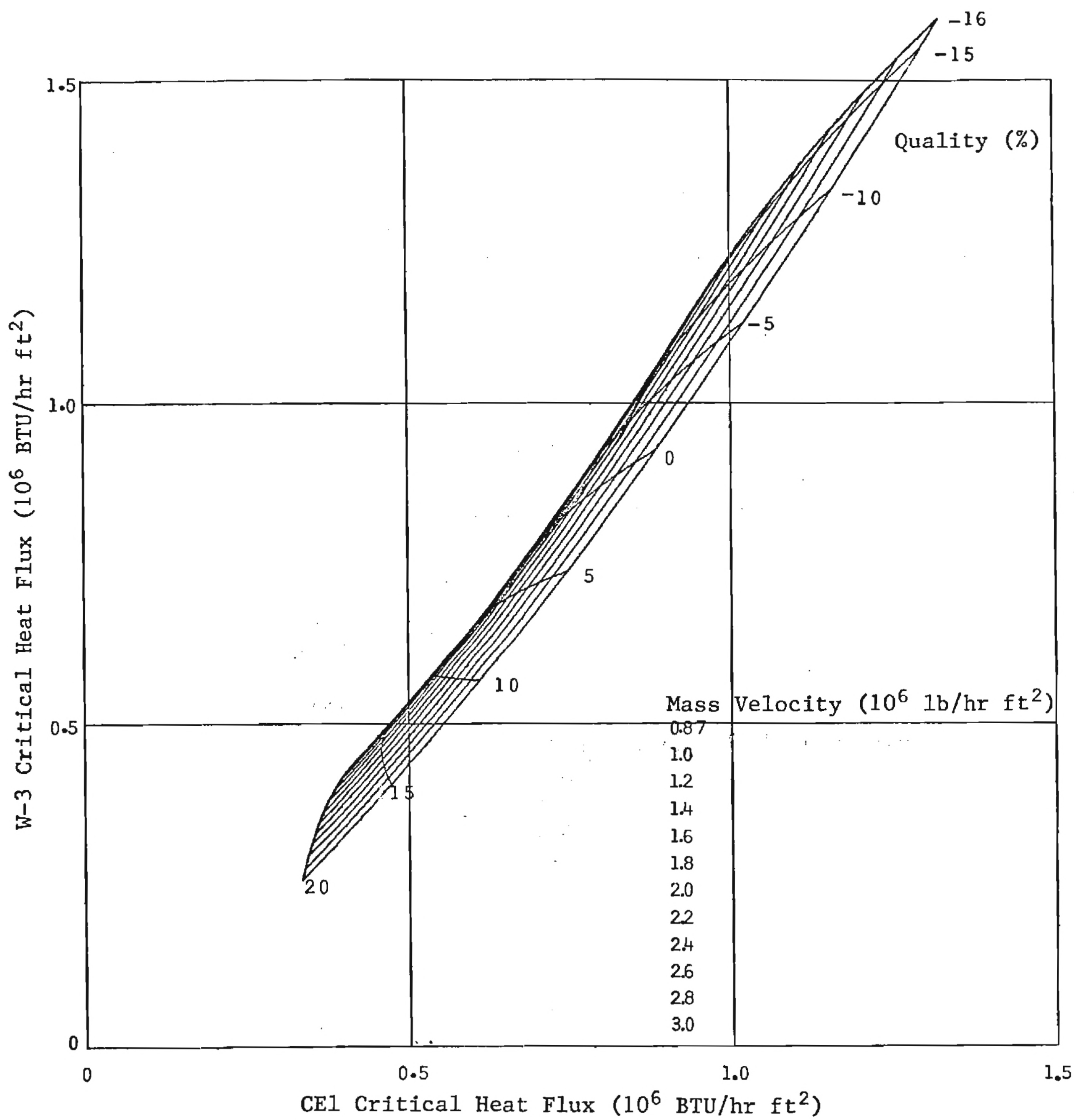


Figure 3.6 Comparison of CE1 and W-3 CHF Correlations at 1785 psia

$\pm$ 23% with a 95% confidence level. Some of the lower values of the critical heat fluxes exceed this band with the CE-1 correlation giving larger values for the critical heat flux. The disagreement between these two correlations is most pronounced for the larger values of the quality, mass velocity and pressure.

The axial heat flux distribution in a nuclear reactor is not uniform but peaked near the middle of the heated length. The effect of the non-uniformity in the axial heat flux distribution has been studied theoretically by Tong. Tong formulated a correction factor (F) that relates the nonuniform heat flux to an equivalent uniform heat flux. The use of the F factor allows the use of the correlations that were developed from experiments with uniform heat fluxes when the heat flux is non-uniform. However, the F factor employs empirical constants. The F factor is given by:

$$F = \frac{C}{q''(\ell)(1 - e^{-C\ell})} \int_o^{\ell} q''(Z)e^{-C(\ell-Z)} \, dZ$$

where ℓ is the distance from the start of heating to the point of CHF

Z is the position measured from the start of heating

$q''(Z)$ is the local heat flux at position Z

C is an empirically determined constant

The constant C is given by:

$$C = 0.15 \frac{(1 - x)^{4.31}}{(G/10^6)^{0.478}} \qquad (\text{in}^{-1})$$

where x is the local quality at the point of CHF

G is the local mass velocity at the point of CHF

It is important to note that C has units of inverse inches which are impeded in the constant 0.15. The combination of the W-3 correlation and this representation of the F factor is reported to reproduce all of the then available CHF data with the 95% confidence level at about $\pm$ 20% of the predicted CHF heat flux.

The form and values of the constants within the F factor are not theoretically derived but are the result of fitting to the available data and are subject to the desires of the author of the correlation. Other researchers have developed different representations of the empirical constants to fit the nonuniform axial heat flux CHF data when employed with other correlations. However, no researchers have found it necessary to take exception to the form of the F factor so the basic formulation of this correction term has become accepted.

It must be remembered that the constants are empirical in nature and the specific formulation of the F factor must not be separated from the correlation that was used when the constants were developed. The constants allow the F factor to absorb or at least not amplify the uncertainty in the correlation for uniform heat flux CHF that forms the basis for the reproduction of the CHF data.

4. Results and Conclusions

Combustion Engineering performed a total of 420 experiments with different combinations of the axial heat flux distribution, heater rod array, and inlet flow conditions to measure the critical heat flux. Many of these experiments resulted in local conditions at the point of CHF outside the range of validity of the CE-1 correlation. The results of calculations using the COBRA-IIIC model discussed in Section 2 are presented in Table B.1 in Appendix B. Table B.1 also includes the value of the CHF that is predicted by the CE-1 correlation and the F factor using Tong's formulation of the F factor.

A plot of the measured heat flux as a function of the predicted critical heat flux is presented in Fig. 4.1 to indicate the validity of the use of the CE-1 correlation with Tong's F factor. The mean of the ratio of measured to predicted critical heat fluxes is about 1.3 with the 95% confidence level at about 25% of this value. This large ratio of predicted to measured critical heat flux indicates that the empirically determined constants are in error or the formulation has not included an important phenomena. The remainder of this section will be devoted to the consideration of these two possibilities.

Four possible causes have been identified which could explain the observed differences between the measured and predicted critical heat fluxes which are:

1. Inadequate experimental measurements

2. Invalid use of the CE-1 correlation

3. Inappropriate constants in the F factor

4. Nonphysical formulation of either the CE-1 correlation or F factor.

The last of these possible causes is to be examined first. Figures 4.2 to 4.6 present the ratios of the measured to predicted critical heat flux as a function of the local quality, local mass velocity, system pressure, local heat flux and equivalent diameter respectively. A systematic variation in the pattern of data points in these figures would indicate a misrepresentation of the effect of that variable. Conversely, a random distribution of the data points would indicate that some other variable is controlling the differences between the measured and predicted value. The results here are in agreement with the

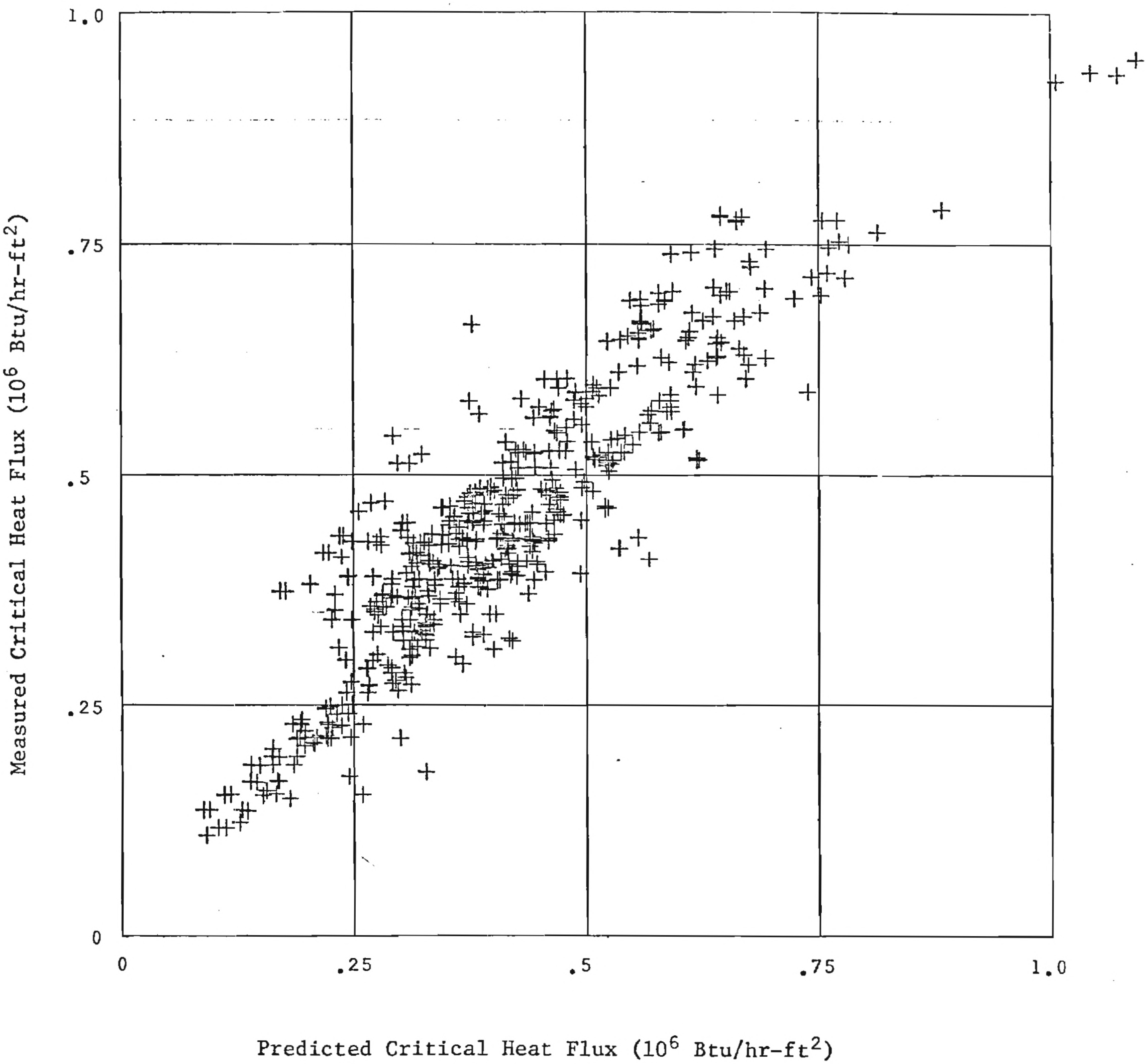


Figure 4.1 Comparison of Measured and Predicted CHF Using CE1 Correlation with Tong's F Factor

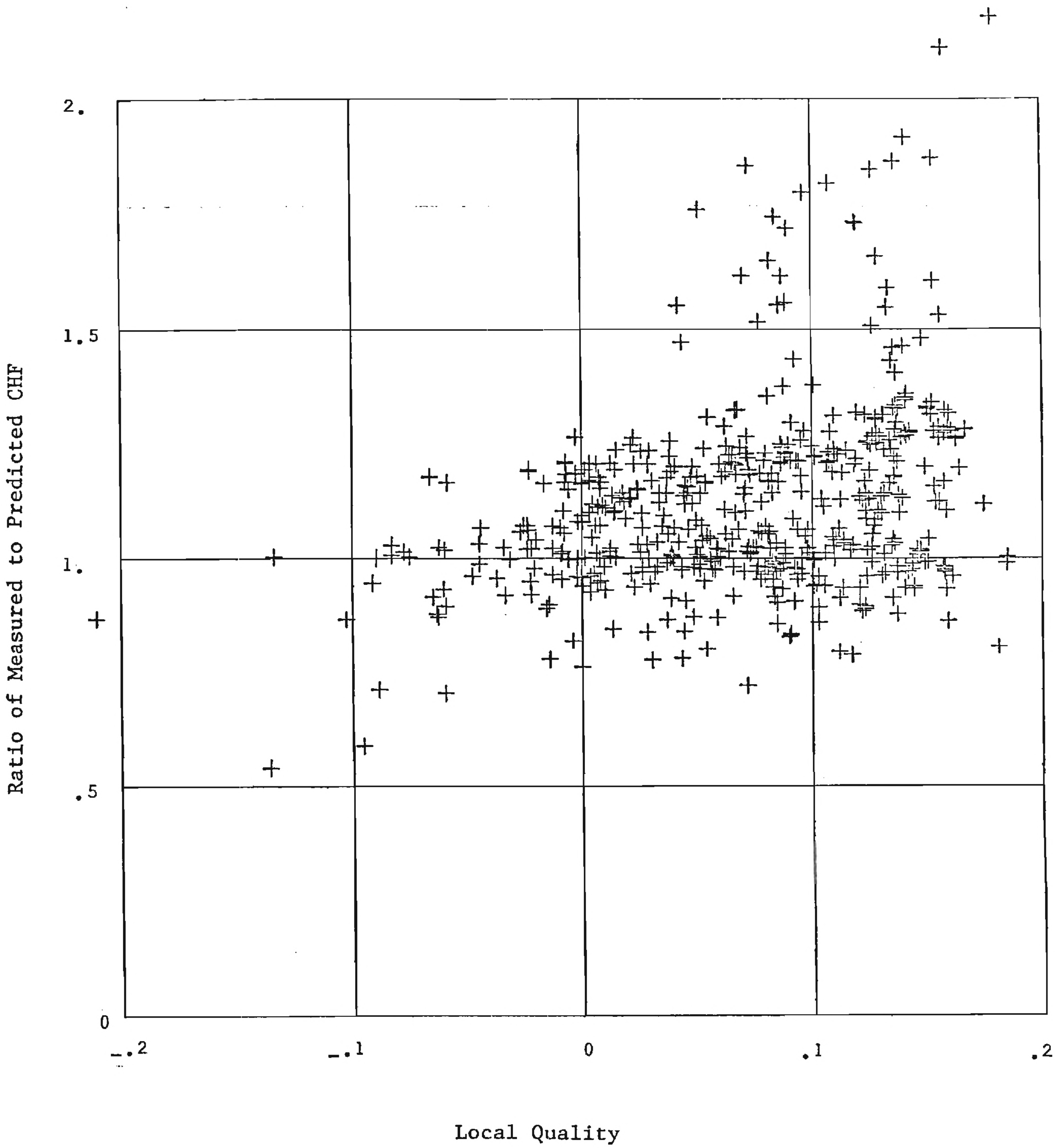


Figure 4.2 Variation of CHF Prediction with Quality

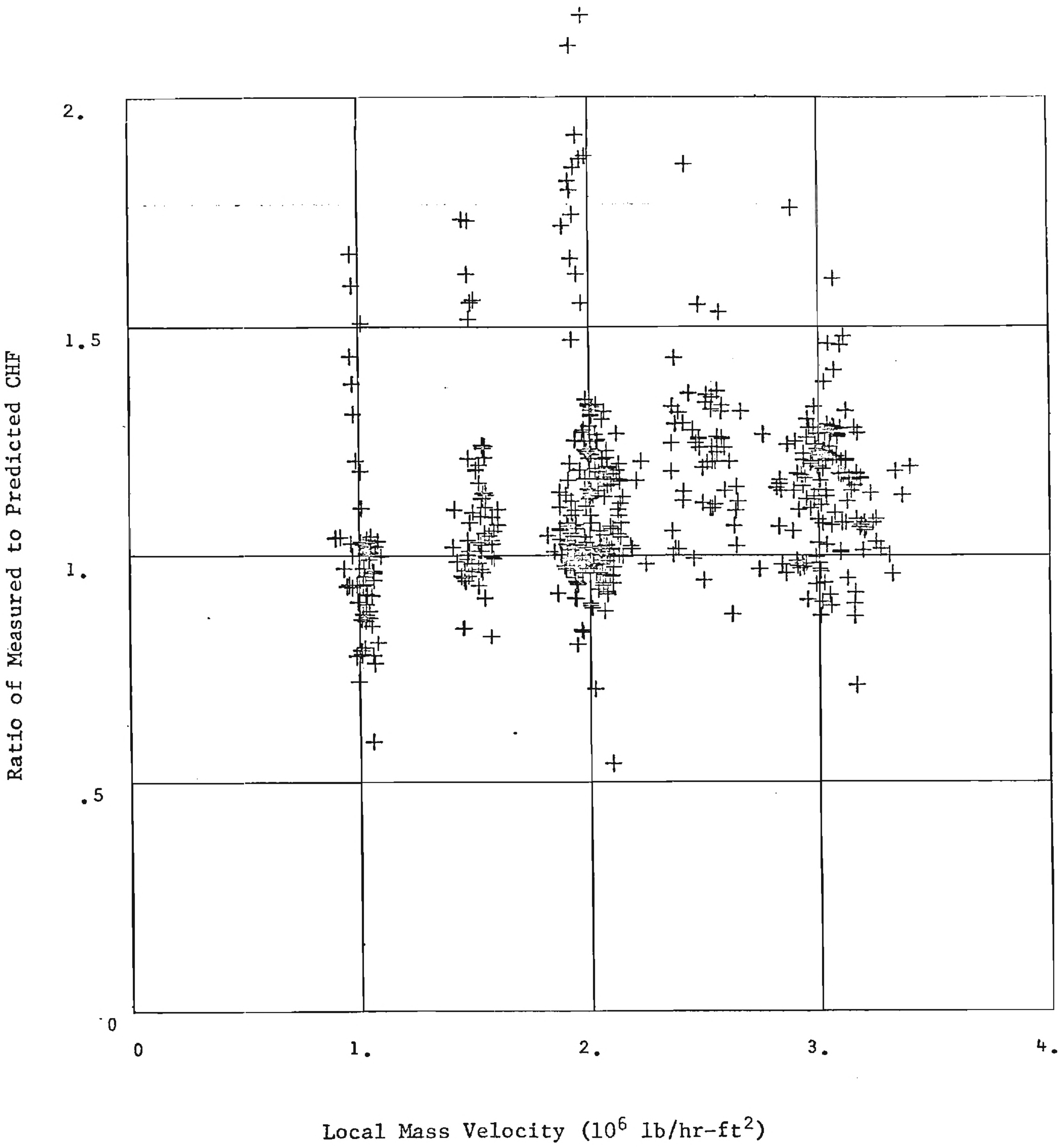


Figure 4.3 Variation of CHF Prediction with Mass Velocity

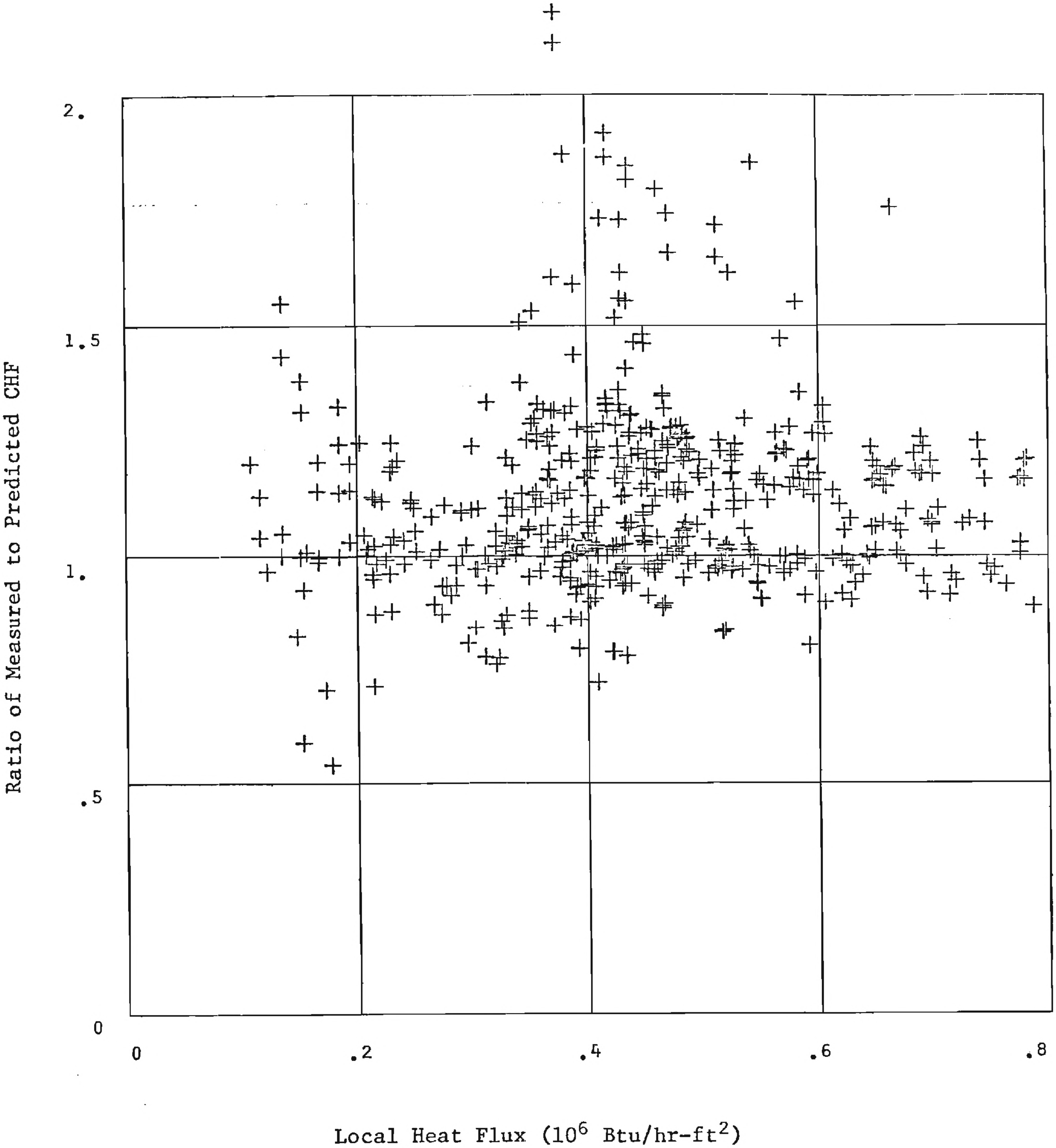


Figure 4.4 Variation of CHF Prediction with Heat Flux

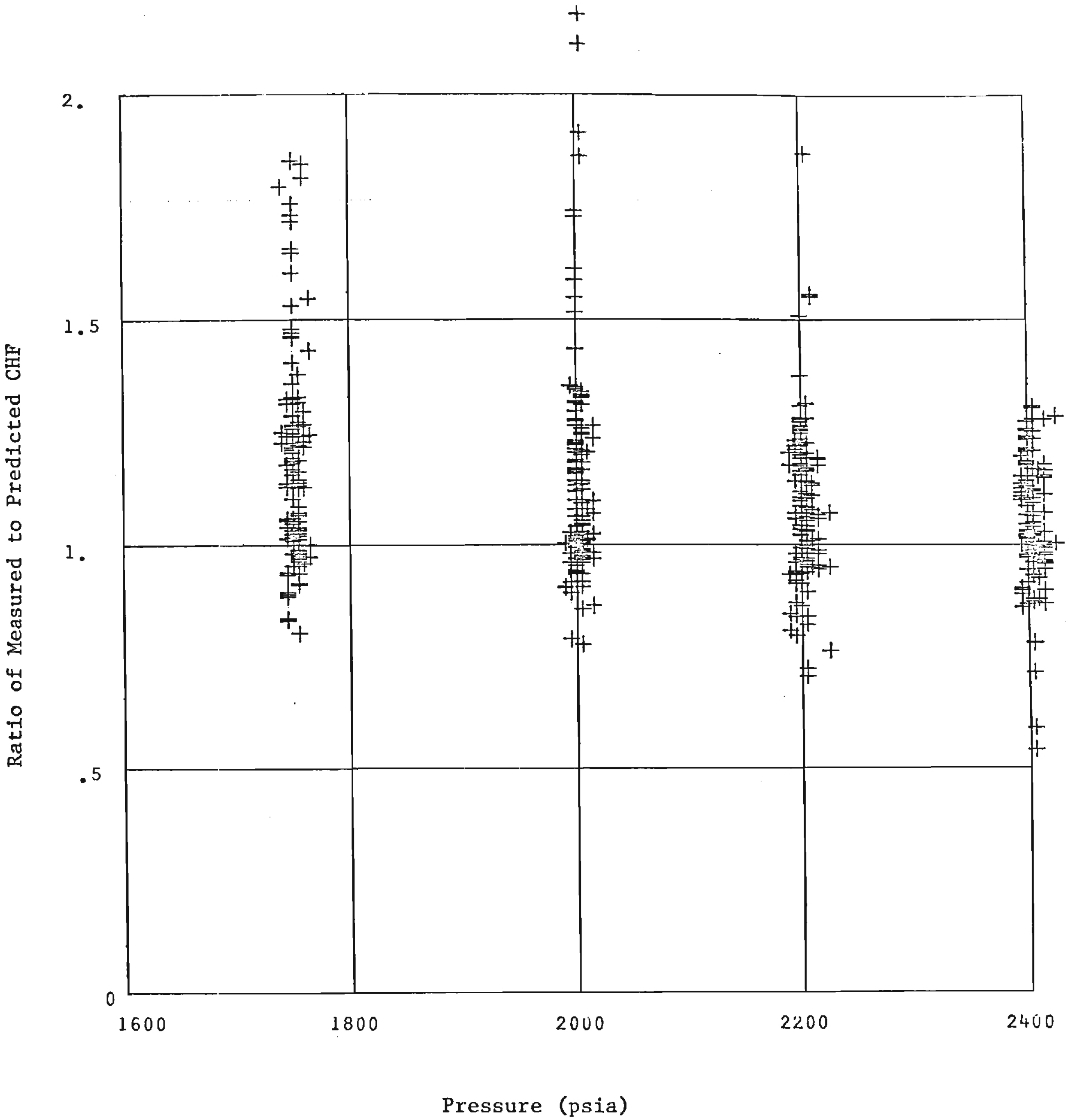


Figure 4.5 Variation of CHF Prediction with Pressure

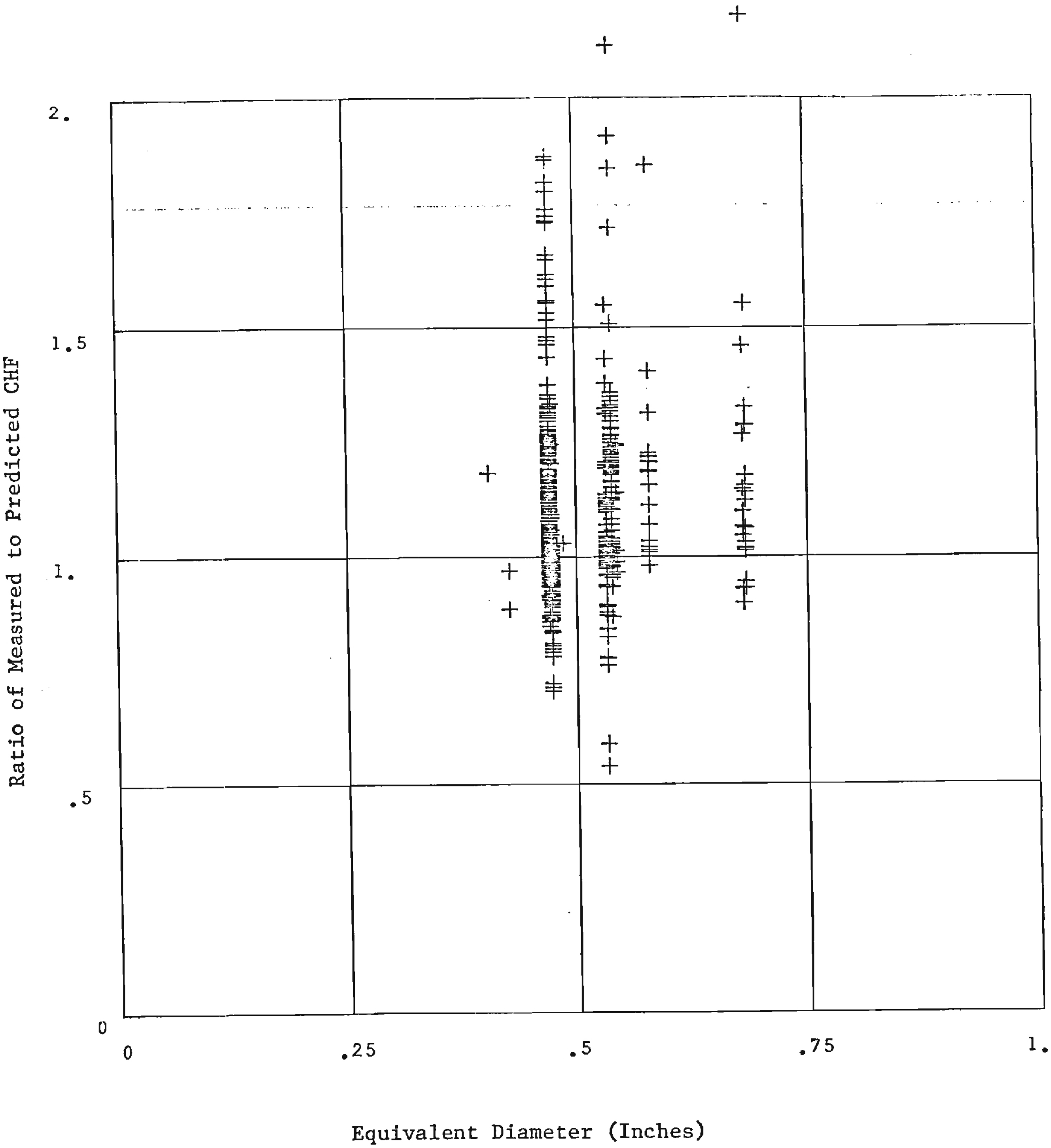


Figure 4.6 Variation of CHF Prediction with Equivalent Diameter

results presented by Combustion Engineering in support of the CE-1 correlation where no general systematic variation of the ratio to measured to predicted critical heat flux is observed for any of the independent variables considered. However, there is a secondary trend of the data towards large differences at high quality. These same points are distributed nearly uniformly in the other plots indicating that the dependence on local quality is the only parameter involved. The characteristics of this data suggest that a secondary parameter is controlling and the CHF is altered as a function of quality only because the quality is also effected by the secondary parameter. It is not possible to examine the effect of the matrix equivalent diameter independently because only two values of the matrix equivalent diameter were included in the experiments; however, this is not necessary because the CE-1 correlation employs only the ratio of the equivalent diameter and the matrix equivalent diameter.

To investigate the validity of the experimental conditions the critical heat flux data was compared to the predictions of the W-3 correlation also using Tong's formulation of the F factor. A plot of the measured critical heat flux as a function of the predicted critical heat flux is presented in Fig. 4.7. In this case the mean of the ratio of measured to predicted critical heat flux is 0.99 and the 95% confidence level is about $\pm$ 15% of the mean. The agreement between the measured data and the W-3 correlation indicates that the experimental data is properly represented and the F factor is being properly utilized in the prediction of the critical heat fluxes.

The potential benefit of reformulating the constants in the F factor has been examined by reviewing the ratio of the required F factor to Tong's F factor. A slight dependence on quality is apparent for large qualities; however, this doesn't appear to be the sole source of the differences between measured and predicted CHF values.

The final possible source for the observed disagreement is an invalid representation of the CHF data by the CE-1 correlation. Detailed examination of the CE-1 correlation is outside the scope of this program; however, the CE-1 correlation was compared to the W-3 correlation to provide an indication of the validity of the CE-1 correlation. Figures 3.4 to 3.6 present a comparison between these two correlations for a parametric variation of the conditions at the point of CHF. A plot of the ratio of the CHF predicted by the CE-1 correlation to the value of the CHF as predicted by the W-3 correlation is presented in Fig. 4.8. The nature of this representation is similar to the dependence of the measured to predicted ratio on quality. The CE-1 correlation gives larger values at high qualities in some of the cases and the general trend is to a ratio that slightly depends on quality. Since the combination of the W-3 and the F factor correlated the measured data, it must be concluded that the disagreement when the CE-1 correlation is used is due to misrepresentation of the dependence of CHF on quality when the heat flux is uniform.

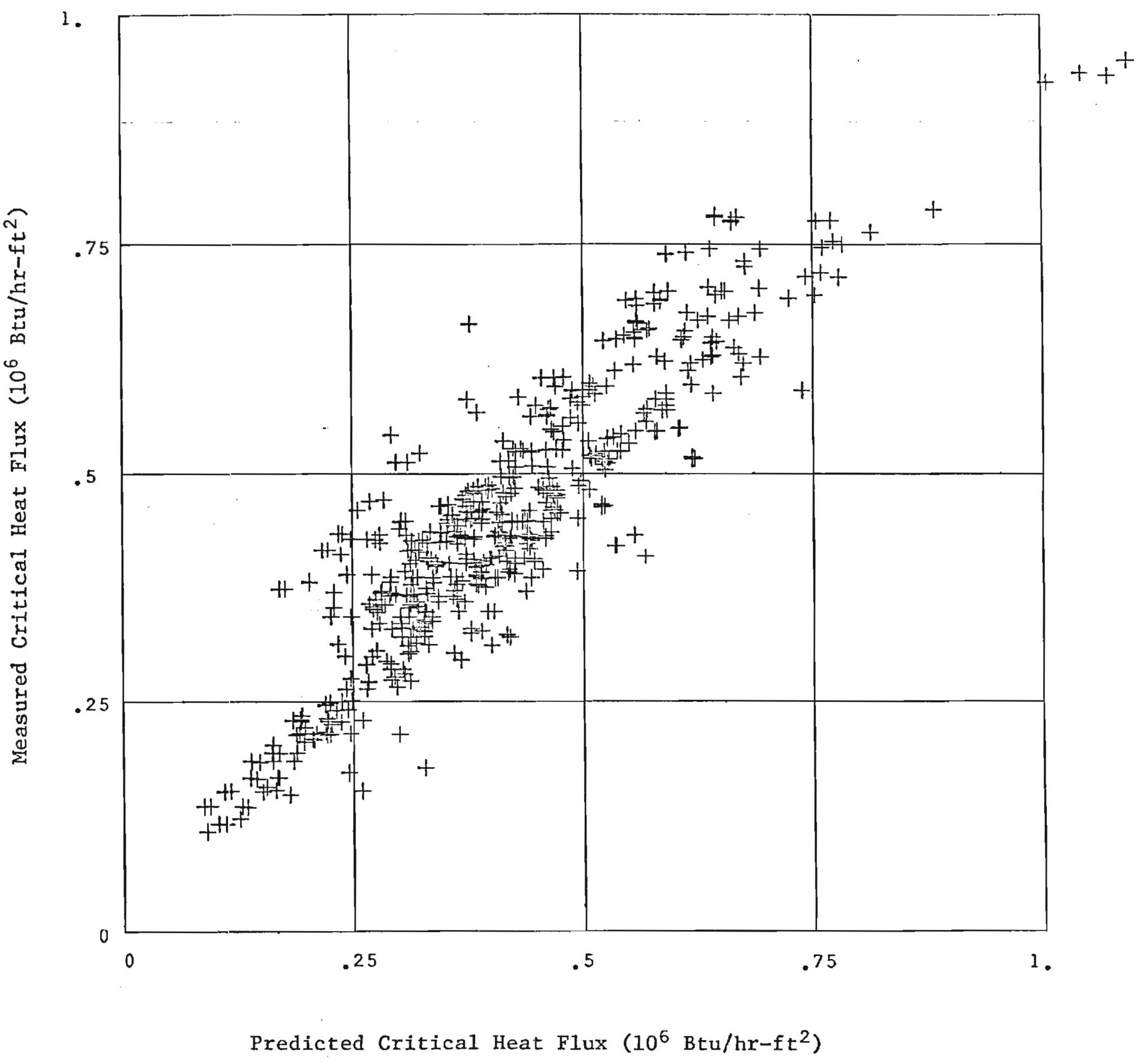


Figure 4.7 Comparison of Measured and Predicted CHF Using W-3 Correlation with Tong's F Factor

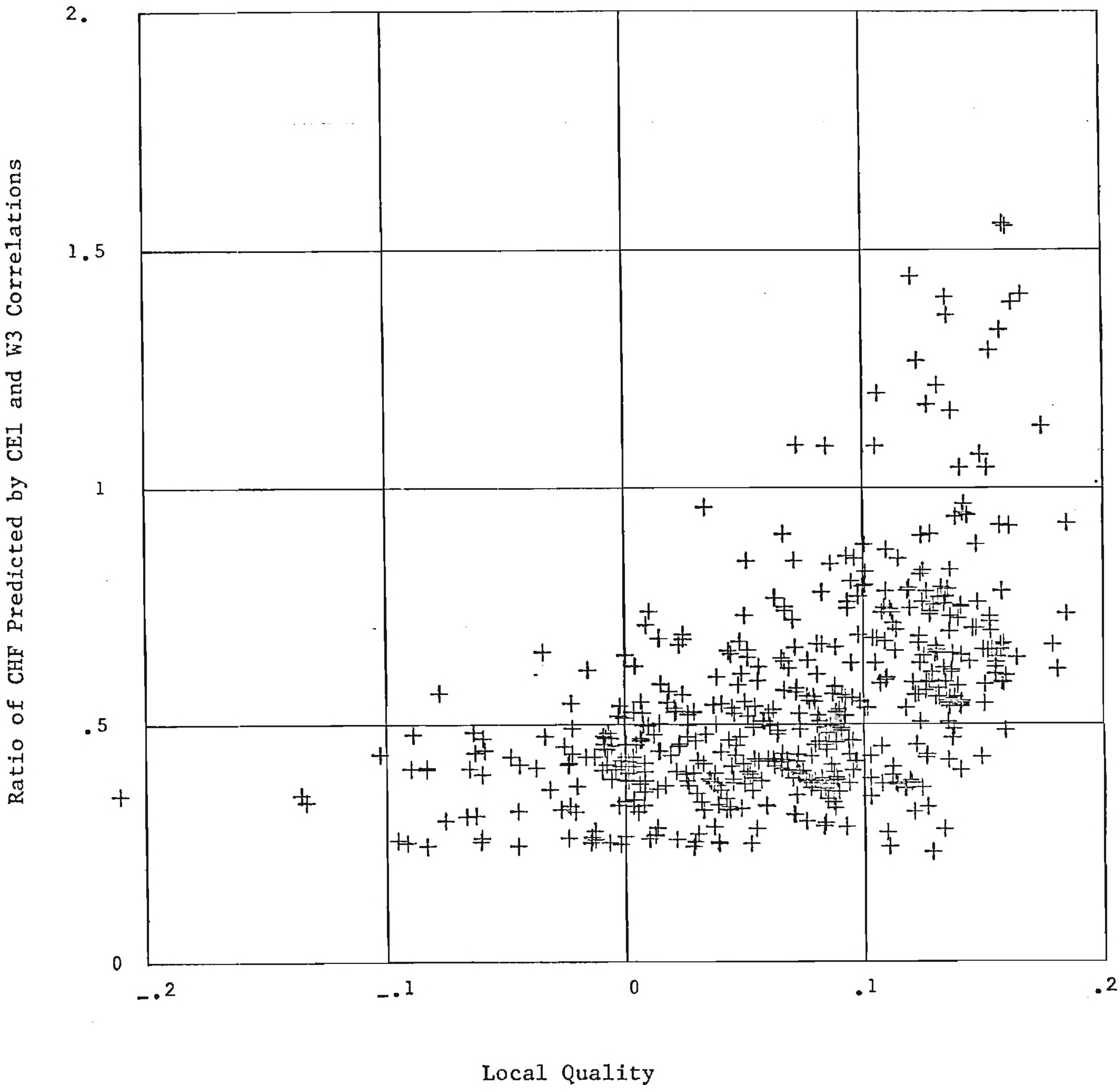


Figure 4.8 Difference Between CE1 and W-3 CHF Correlations

5. Conclusions

The principal conclusion that can be drawn from the evaluation of the CE-1 correlation when used with Tong's F factor is that the CE-1 correlation does not reproduce the values of CHF that are measured. However, the W-3 correlation with Tong's F factor does correlate the measured data. The disagreement between these two correlations is enlarged for values nearing the upper limits of validity for the quality. This disagreement is probably due to the choice of the form for the terms that represent the quality in the CE-1 correlation but this cannot be verified with the analysis that has been reported here.

The comparisons of the ratio of measured to predicted CHF gave no indication of large correlating inadequacies for any of the independent variables in the CE-1 correlation, and the good correlation of the measured data by the W-3 correlation and Tong's F factor provides support for the validity of the measurement techniques.

After eliminating all other sources for disagreement the source of the disagreement has to be related to the CE-1 correlation and the fact that the constants in Tong's F factor were selected to give good results when used with the W-3 correlation.

Appendix A

COBRA Input

The input for the COBRA-IIIC computer program is presented in Tables A.1 and A.2 for the experiments with 14 × 14 arrays and 16 × 16 arrays of heater rods respectively. One case for each configuration is presented. Card type 9 (line 94) was changed for each case to reflect the pressure, temperature, mass velocity, and average heat flux. Also, card type 3 (lines 37 and 38) were changed to represent the axial power distribution that characterized each set of experiments. The radial power factors on card type 8 (lines 74 to 88) were also changed to correspond to each different set of experiments.

Table A.1

Typical COBRA Input for Experiments with 14 x 14 Array

```
 2000
    1     1        14X14 CE CHF TEST   1.68 APE PEAKED AT BOTTOM   CASE 20
    1    30
134.5350.0     .01799      3.3460      321.8      1193.1      .37850      .39060
152.9360.0     .01811      2.9610      332.4      1195.2      .36600      .38910
173.2370.0     .01823      2.6280      343.0      1197.2      .35600      .38740
195.6380.0     .01836      2.3390      353.6      1199.0      .34600      .38570
220.2390.0     .01850      2.0870      364.3      1200.6      .33650      .38330
247.1400.0     .01864      1.8660      375.1      1202.0      .32700      .38090
276.5410.0     .01878      1.6730      386.0      1203.1      .31850      .37810
308.5420.0     .01894      1.5020      396.9      1204.1      .31000      .37530
343.3430.0     .01909      1.3520      407.9      1204.8      .30200      .37230
381.2440.0     .01926      1.2190      419.0      1205.3      .29400      .36930
422.1450.0     .01943      1.1011      430.2      1205.6      .28700      .36670
466.3460.0     .019610     .99610      441.4      1205.5      .28000      .36400
514.1470.0     .019800     .90250      452.8      1205.2      .27350      .36080
565.5480.0     .020000     .81870      464.3      1204.6      .26700      .35750
620.7490.0     .020210     .74360      475.9      1203.7      .26150      .35350
680. 500.0     .020430     .67610      487.7      1202.5      .25600      .34940
811.4520.0     .020910     .56050      511.7      1198.9      .24600      .33970
961.5540.0     .021450     .46580      536.4      1193.8      .23500      .32980
1132.560.0     .022070     .38770      562.0      1187.0      .22500      .31890
1324.580.0     .02278      .32250      588.6      1178.0      .21700      .30640
1541.600.0     .02363      .26770      616.7      1166.4      .21000      .29190
1700.613.1     .02428      .23607      636.5      1158.6      .20345      .28103
1785.620.0     .02465      .22090      646.4      1151.4      .20000      .27530
1800.621.0     .02472      .21861      648.5      1152.3      .19950      .27436
1900.628.6     .02517      .20278      660.4      1145.6      .19570      .26722
2000.635.8     .02565      .18831      672.1      1138.3      .19210      .26045
2060.640.0     .02595      .18020      679.1      1133.7      .19000      .25650
2250.652.9     .02698      .15700      701.1      1115.9      .18160      .24170
2362.660.0     .027670     .14460      714.4      1105.5      .17700      .23350
2460.665.8     .02834      .13516      726.1      1095.3      .17236      .22541
    2                      1
 .186   -.2
    3    12
  0. 0.35   0.1 1.03   0.2 1.49   0.3 1.69  0.32 1.70   0.4 1.64
  0.5 1.38  0.6 0.98   0.7 0.67   0.8 0.45   0.9 0.30   1.0  0.3
     4    15    15
      1.53214.9803.110      2 .275              8 .275
      2.31422.6532.073      3 .275              7 .140
      3.31422.6532.073      4 .275              6 .140
      4.53214.9803.110      5 .275
      5.31422.6532.073      6 .140             12 .275
      6.18431.3821.382      7 .140             11 .140
      7.18431.3821.382      8 .140             10 .140
      8.31422.6532.073      9 .275
      9.31422.6532.073     10 .140             15 .275
     10.23091.6951.178     11 .140             14 .140
     11.0918.9083.5496     12 .140
     12.36082.9661.869     13 .280
     13.41684.7202.003
     14.19892.366.9660     15 .275
     15.53214.9803.110
     7     2     9     1
.0083      1.1243      1.2403      1.3563      1.4723      1.5883      1
.7043      1.8203      1.9363      1
     1    .8
     2    .8
     3    .8
     4    .8
     5    .8
     6    .8
     7    .8
     8    .8
     9    .8
```

Table A.1 (Continued)

```
10   .8
11   .8
12   .8
13   .8
14   .8
15   .8
 8   15   15
 1 .440 .971     11.495    2    .5
 2 .440 .966    2    .5    3    .5
 3 .440 .971    3    .5    41.495
 4 .440 .966    3   .25    4.7460    5.7460    6  .25
 5 .440 .976    2   .25    3   .25    6   .25    7  .25
 6 .440 .966     1.7546    2   .25    7   .25    8.7546
 7 .440 .969    8    .5    9    .5
 8 .4401.201    7   .25    8   .25    9   .25   10  .25
 9 .4401.198    6   .25    7   .25   11.1988   10.3012
10 .4401.201    5   .25    6   .25   12.3012   11.1988
11 .440 .971    5    .5   12    .5
12 .440 .964   12.5512    131.445
13 .440 .966   10.3012     9   .25   15   .25   14.1988
14 .440 .971    9    .5   15    .5
15 .440 .956   14    .5   151.506
 9
.5    0. 150.   0.    60    0    0.   30
10
.02
11    1
  2405.      622.       3.00       .421
12    1
```

Table A.2

Typical COBRA Input for Experiments with 16 x 16 Array

```
  2000
     1     1      16X16 CE CHF TEST   1.47 APD PEAKED AT TOP     CASE 5
     1    30
 134.5350.0     .01799     3.3460      321.8     1193.1     .37850     .39060
 152.9360.0     .01811     2.9610      332.4     1195.2     .36600     .38910
 173.2370.0     .01823     2.6280      343.0     1197.2     .35600     .38740
 195.6380.0     .01836     2.3390      353.6     1199.0     .34600     .38570
 220.2390.0     .01850     2.0870      364.3     1200.6     .33650     .38330
 247.1400.0     .01864     1.8660      375.1     1202.0     .32700     .38090
 276.5410.0     .01878     1.6730      386.0     1203.1     .31850     .37810
 308.5420.0     .01894     1.5020      396.9     1204.1     .31000     .37530
 343.3430.0     .01909     1.3520      407.9     1204.8     .30200     .37230
 381.2440.0     .01926     1.2190      419.0     1205.3     .29400     .36930
 422.1450.0     .01943     1.1011      430.2     1205.6     .28700     .36670
 466.3460.0     .019610     .99610     441.4     1205.5     .28000     .36400
 514.1470.0     .019800     .90250     452.8     1205.2     .27350     .36080
 565.5480.0     .020000     .81870     464.3     1204.6     .26700     .35750
 620.7490.0     .020210     .74360     475.9     1203.7     .26150     .35350
 680. 500.0     .020430     .67610     487.7     1202.5     .25600     .34940
 811.4520.0     .020910     .56050     511.7     1198.9     .24600     .33970
 961.5540.0     .021450     .46580     536.4     1193.8     .23500     .32980
 1132.560.0     .022070     .38770     562.0     1187.0     .22500     .31890
 1324.580.0     .02278      .32250     588.6     1178.0     .21700     .30640
 1541.600.0     .02363      .26770     616.7     1166.4     .21000     .29190
 1700.613.1     .02428      .23607     636.5     1158.6     .20345     .28103
 1785.620.0     .02465      .22090     646.4     1151.4     .20000     .27530
 1800.621.0     .02472      .21861     648.5     1152.3     .19950     .27436
 1900.628.6     .02517      .20278     660.4     1145.6     .19570     .26722
 2000.635.8     .02565      .18831     672.1     1138.3     .19210     .26045
 2060.640.0     .02595      .18020     679.1     1133.7     .19000     .25650
 2250.652.9     .02698      .15700     701.1     1115.9     .18160     .24170
 2362.660.0     .027670     .14460     714.4     1105.5     .17700     .23350
 2460.665.8     .02834      .13516     726.1     1095.3     .17236     .22541
     2     0    0     0     1
  .186   -.2
     3    10
    0.   .56   .12 .685   .42   .92   .52 1.01   .62 1.13   .78 1.43
   .84  1.46   .88  1.4   .92  1.21   1.   .76
     4    15    15
      1.406 4.2542.700     2 .247          8 .247
      2.243 2.3061.800     3 .247          7 .124
      3.243 2.3061.800     4 .247          6 .124
      4.406 4.2542.700     5 .247
      5.243 2.3061.800     6 .124         12 .247
      6.14141.20 1.200     7 .124         11 .124
      7.14141.20 1.200     8 .124         10 .124
      8.243 2.3061.800     9 .247
      9.243 2.3061.800    10 .124         15 .247
     10.175 1.4771.023    11 .119         14 .119
     11.0692.7925.4771    12 .119
     12.27662.5831.623    13 .242
     13.31223.7841.739
     14.14921.836.8386    15 .247
     15.406 4.2542.700
     7     2    10     1
 .0124     1.1071     1.2017     1.2964     1.3911     1.4857     1
 .5804     1.6751     1.7697     1.8644     1
     1    .8
     2    .8
     3    .8
     4    .8
     5    .8
     6    .8
     7    .8
     8    .8
     9    .8
```

Table A.2 (Continued)

67	10	.8										
68	11	.8										
69	12	.8										
70	13	.8										
71	14	.8										
72	15	.8										
73	8	15	15									
74	1	.382	.986	1	1.50	8	.50					
75	2	.382	.988	2	.50	3	.50					
76	3	.382	.987	3	.50	4	1.50					
77	4	.382	.988	3	.25	4	.749	5	.749	6	.25	
78	5	.382	.992	2	.25	3	.25	6	.25	7	.25	
79	6	.382	.989	1	.751	2	.25	7	.25	8	.751	
80	7	.382	.988	8	.50	9	.50					
81	8	.3821.073		7	.25	8	.25	9	.25	10	.25	
82	9	.3821.069		6	.25	7	.25	10	.301	11	.199	
83	10	.3821.072		5	.25	6	.25	11	.199	12	.301	
84	11	.382	.988	5	.50	12	.50					
85	12	.382	.991	12	.551	13	1.44					
86	13	.382	.986	9	.25	10	.301	14	.199	15	.25	
87	14	.382	.990	9	.50	15	.50					
88	15	.382	.989	14	.50	15	1.50					
89	9											
90	.5	0.	150.	0.	60	0	0.	30				
91	10											
92	.02											
93	11	1										
94		2405.		595.		1.99		.321				
95	12	1										
96												
97												

Appendix B

COBRA-IIIC Calculation Results

The following table presents the results of the COBRA-IIIC calculations of the local flow conditions at the indicated point of CHF. A total of 305 cases are presented. This includes onlv those experiments that fall within the range of the CE-1 correlation. A total of 105 experiments had local conditions at the point of CHF that were outside of the range of validity of this correlation. For each heater rod that indicated CHF there are four adjacent flow channels and the flow conditions in each of these channels are tabulated. Where multiple heater rods were indicated as experiencing CHF a separate set of entries is presented for each heater rod.

The captions for each column are criptic and have no units to conserve space. The meaning and units are identified as follows:

Caption	Meaning	Units
ARRAY	fuel assembly array represented by the heater rods	
APD	axial power distribution given by the peak to average ratio and the location of the peak in either the top, bottom or symmetric	
TEMP	coolant inlet temperature	°F
G	coolant inlet mass velocity	10^6 lb/hr-ft^2
PRESS	coolant pressure	psia
Z	axial position of indication of CHF measured from bottom of heated region	inches
CH	channel number where local conditions are determined. Note: an asterisk to the left of a channel number denotes the channel with the closest agreement between measured and predicted CHF.	
X	local quality at the position of CHF in this channel	fraction

Caption	Meaning	Units
G	local mass velocity at the position of CHF in this channel	10^6 lb/hr-ft^2
HEAT FLUX	heat flux at the position of CHF	10^6 BTU/hr-ft^2
CE1	CHF heat flux predicted by the CE1 correlation	10^6 BTU/hr-ft^2
F	F factor for relating uniform and nonuniform axial heat fluxes for CHF predictions	
MEAS PRED	ratio of the experimental heat flux to the CHF heat flux predicted by the CE1 correlation using the F factor	
REQD F	the value of the F factor that is required for the experiment and prediction to agree	

Table B.1

Results of Calculations

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 TOP	606.	1.98	2195.									
					140.05	2	.160	1.962	.428	.414	.882	.914	.966
						3	.159	1.965	.428	.416	.883	.909	.970
						6	.160	2.035	.428	.395	.882	.957	.922
						* 7	.161	2.029	.428	.392	.881	.963	.916
14X14	1.68 TOP	608.	1.95	1990.									
					140.05	2	.186	1.937	.391	.357	.869	.951	.914
						3	.185	1.940	.391	.359	.870	.947	.918
						* 6	.185	2.010	.391	.337	.867	1.003	.864
						7	.186	2.005	.391	.335	.866	1.009	.858
14X14	1.68 TOP	578.	2.01	2000.									
					140.05*	7	.147	2.045	.479	.414	.883	1.021	.865
						8	.142	1.993	.479	.448	.882	.942	.936
						9	.133	2.024	.479	.469	.881	.899	.980
						10	.117	2.132	.479	.473	.876	.887	.988
					140.05	1	.136	1.947	.476	.484	.880	.866	1.017
						2	.147	1.978	.476	.439	.883	.958	.921
						* 7	.147	2.045	.476	.414	.883	1.016	.869
						8	.142	1.993	.476	.448	.882	.938	.941
					140.05	2	.147	1.978	.482	.439	.883	.970	.910
						3	.146	1.982	.482	.441	.883	.965	.915
						* 6	.146	2.052	.482	.417	.883	1.021	.865
						7	.147	2.045	.482	.414	.883	1.028	.859
					122.65	2	.102	1.962	.540	.530	.933	.951	.981
						3	.102	1.965	.540	.531	.933	.949	.983
						* 6	.106	2.010	.540	.495	.928	1.013	.916
						7	.106	2.007	.540	.495	.928	1.014	.915
					140.05	3	.146	1.982	.477	.441	.883	.954	.925
						4	.132	1.964	.477	.494	.879	.848	1.037
						5	.128	2.044	.477	.481	.879	.872	1.008
						* 6	.146	2.052	.477	.417	.883	1.010	.875
14X14	1.68 TOP	570.	2.02	1745.									
					140.05*	7	.144	2.059	.433	.406	.883	.941	.938
						8	.141	2.004	.433	.442	.882	.863	1.022
						9	.133	2.035	.433	.461	.881	.827	1.065
						10	.120	2.142	.433	.458	.878	.828	1.059
					140.05	1	.136	1.956	.430	.480	.880	.789	1.115
						2	.144	1.990	.430	.434	.883	.876	1.008
						* 7	.144	2.059	.430	.406	.883	.937	.943
						8	.141	2.004	.430	.442	.882	.859	1.027
14X14	1.68 TOP	564.	2.02	1995.									
					140.05*	7	.124	2.045	.505	.460	.878	.962	.912
						8	.119	1.995	.505	.497	.874	.888	.985
						9	.110	2.029	.505	.519	.870	.846	1.028
						10	.093	2.144	.505	.523	.863	.833	1.036
14X14	1.68 TOP	551.	1.98	1745.									
					140.05*	7	.123	2.004	.467	.456	.876	.897	.977
						8	.119	1.955	.467	.495	.873	.823	1.061
						9	.110	1.990	.467	.516	.869	.788	1.104
						10	.096	2.099	.467	.514	.864	.786	1.100
					140.05	3	.122	1.944	.465	.488	.874	.833	1.050
						4	.109	1.931	.465	.546	.867	.738	1.174
						5	.106	2.011	.465	.527	.867	.766	1.132
						* 6	.122	2.012	.465	.459	.876	.888	.987
					140.05	1	.113	1.913	.465	.537	.869	.752	1.155
						2	.123	1.939	.465	.486	.875	.836	1.046
						* 7	.123	2.004	.465	.456	.876	.893	.982
						8	.119	1.955	.465	.495	.873	.819	1.066

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 TOP	596.	1.97	1755.									
					122.65	2	.155	1.948	.435	.409	.863	.917	.941
						3	.155	1.950	.435	.410	.864	.916	.943
						6	.158	2.003	.435	.378	.853	.982	.869
					*	7	.158	2.001	.435	.377	.853	.983	.868
					122.65	1	.147	1.923	.429	.454	.882	.834	1.057
						2	.155	1.948	.429	.409	.863	.907	.952
					*	7	.158	2.001	.429	.377	.853	.971	.878
						8	.153	1.958	.429	.415	.867	.898	.965
					122.65	3	.155	1.950	.430	.410	.864	.906	.954
						4	.144	1.933	.430	.459	.885	.828	1.069
						5	.144	1.995	.430	.436	.881	.869	1.013
					*	6	.158	2.003	.430	.378	.853	.971	.879
					140.05	7	.189	2.024	.385	.306	.862	1.085	.795
					*	8	.185	1.967	.385	.338	.869	.991	.877
						9	.178	1.991	.385	.353	.874	.953	.917
						10	.166	2.092	.385	.351	.878	.964	.911
					122.65*	7	.158	2.001	.432	.377	.853	.976	.874
						8	.153	1.958	.432	.415	.867	.903	.960
						9	.147	1.982	.432	.429	.877	.883	.993
						10	.133	2.094	.432	.428	.891	.898	.992
					122.65	6	.158	2.003	.430	.378	.853	.972	.878
					*	7	.158	2.001	.430	.377	.853	.973	.876
						10	.133	2.094	.430	.428	.891	.895	.995
						11	.138	1.926	.430	.488	.895	.789	1.134
14X14	1.68 TOP	587.	1.98	2415.									
					122.65*	2	.056	1.912	.588	.564	.955	.994	.961
						3	.056	1.914	.588	.565	.955	.992	.962
						6	.061	1.958	.588	.530	.953	1.057	.902
						7	.061	1.952	.588	.529	.953	1.058	.901
14X14	1.68 TOP	583.	1.99	2195.									
					122.65	2	.077	1.935	.547	.563	.949	.921	1.030
						3	.076	1.937	.547	.564	.949	.920	1.032
					*	6	.081	1.982	.547	.528	.946	.980	.965
						7	.080	1.980	.547	.523	.946	.979	.966
14X14	1.68 TOP	625.	1.98	2415.									
					122.65*	2	.141	1.958	.487	.440	.888	.983	.904
						3	.140	1.960	.487	.441	.889	.981	.906
						6	.145	2.012	.487	.414	.878	1.032	.851
						7	.145	2.010	.487	.414	.878	1.033	.850
14X14	1.68 TOP	604.	1.93	2400.									
					140.05	2	.148	1.907	.469	.424	.883	.976	.905
						3	.147	1.911	.469	.426	.883	.971	.909
					*	6	.148	1.977	.469	.407	.883	1.018	.868
						7	.149	1.972	.469	.404	.883	1.025	.862
					122.65*	2	.094	1.891	.526	.506	.941	.978	.963
						3	.093	1.893	.526	.507	.942	.976	.965
						6	.098	1.939	.526	.476	.937	1.035	.905
						7	.098	1.937	.526	.476	.937	1.036	.905
					122.65	3	.093	1.893	.520	.507	.942	.965	.976
						4	.077	1.889	.520	.561	.950	.881	1.078
						5	.077	1.944	.520	.539	.948	.915	1.036
					*	6	.098	1.939	.520	.476	.937	1.024	.915
					122.65	1	.080	1.878	.520	.554	.949	.890	1.066
						2	.094	1.891	.520	.506	.941	.966	.974
					*	7	.098	1.937	.520	.476	.937	1.023	.916
						8	.090	1.902	.520	.513	.943	.955	.988

SUMMARY OF CE CHF TESTS

CASE		INLET			CONDITIONS AT CHF								
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 TOP	535.	1.94	1990.									
					140.05	3	.091	1.879	.550	.549	.852	.854	.998
						4	.075	1.883	.550	.613	.841	.754	1.114
						5	.072	1.958	.550	.594	.841	.779	1.079
						* 6	.092	1.941	.550	.518	.855	.908	.942
					140.05	1	.079	1.862	.549	.602	.843	.770	1.095
						2	.092	1.874	.549	.547	.853	.857	.995
						* 7	.092	1.934	.549	.517	.855	.909	.941
						8	.087	1.893	.549	.558	.850	.837	1.015
14X14	1.68 TOP	524.	1.97	1745.									
					140.05	3	.090	1.908	.517	.565	.852	.780	1.092
						4	.076	1.913	.517	.630	.842	.692	1.218
						5	.073	1.991	.517	.607	.843	.718	1.175
						* 6	.090	1.973	.517	.532	.855	.832	1.028
					140.05	1	.080	1.891	.516	.619	.845	.705	1.199
						2	.090	1.903	.516	.563	.853	.783	1.089
						* 7	.091	1.964	.516	.530	.855	.834	1.026
						8	.086	1.923	.516	.573	.851	.767	1.109
					140.05*	7	.091	1.964	.519	.530	.855	.838	1.021
						8	.086	1.923	.519	.573	.851	.771	1.104
						9	.077	1.967	.519	.595	.846	.737	1.147
						10	.062	2.096	.519	.594	.839	.733	1.144
14X14	1.68 TOP	631.	2.97	2395.									
					122.65	2	.117	2.939	.606	.603	.861	.865	.995
						3	.117	2.942	.606	.604	.861	.863	.997
						6	.121	3.017	.606	.572	.849	.899	.944
						* 7	.121	3.014	.606	.571	.849	.900	.943
14X14	1.68 TOP	625.	3.00	2195.									
					122.65	2	.132	2.972	.588	.553	.826	.877	.941
						3	.132	2.975	.588	.555	.827	.876	.944
						6	.135	3.051	.588	.522	.813	.915	.888
						* 7	.135	3.049	.588	.521	.812	.916	.887
14X14	1.68 TOP	614.	2.96	2015.									
					122.65	2	.135	2.928	.581	.512	.824	.935	.881
						3	.134	2.932	.581	.513	.825	.934	.883
						6	.137	3.006	.581	.480	.811	.982	.826
						* 7	.137	3.003	.581	.479	.811	.983	.825
					122.65	3	.134	2.932	.575	.513	.825	.924	.893
						4	.124	2.907	.575	.570	.850	.858	.991
						5	.123	2.995	.575	.548	.845	.886	.953
						* 6	.137	3.006	.575	.480	.811	.972	.835
14X14	1.68 TOP	607.	2.93	1755.									
					122.65*	3	.143	2.910	.510	.419	.803	.977	.822
						4	.135	2.879	.510	.471	.827	.895	.924
						5	.135	2.968	.510	.449	.821	.934	.879
						6	.146	2.987	.510	.387	.789	1.042	.758
					122.65*	2	.144	2.906	.516	.418	.802	.990	.810
						3	.143	2.910	.516	.419	.803	.988	.813
						6	.146	2.987	.516	.387	.789	1.053	.750
						7	.146	2.984	.516	.386	.789	1.054	.748
					122.65	7	.146	2.984	.512	.386	.789	1.047	.753
						* 8	.142	2.920	.512	.424	.896	.973	.828
						9	.137	2.951	.512	.441	.816	.949	.860
						10	.126	3.112	.512	.446	.830	.954	.870

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	G	PRESS	Z		CONDITIONS AT CHF CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 TOP	619.	2.93	2395.										
					122.65		2	.081	2.883	.628	.667	.917	.864	1.061
							3	.081	2.886	.628	.663	.917	.862	1.064
							6	.085	2.955	.628	.632	.910	.905	1.006
						*	7	.085	2.952	.628	.631	.910	.905	1.005
14X14	1.68 TOP	612.	3.00	2195.										
					122.65		2	.102	2.954	.632	.624	.886	.897	.987
							3	.102	2.957	.632	.625	.886	.895	.990
							6	.106	3.028	.632	.588	.877	.941	.932
						*	7	.106	3.025	.632	.588	.877	.942	.931
14X14	1.68 TOP	595.	2.98	2000.										
					122.65		2	.098	2.922	.645	.611	.894	.944	.948
							3	.097	2.926	.645	.612	.895	.942	.950
							6	.101	2.992	.645	.573	.886	.997	.889
						*	7	.101	2.989	.645	.573	.886	.998	.889
14X14	1.68 TOP	580.	3.00	1755.										
					122.65		2	.091	2.940	.597	.594	.903	.907	.995
							3	.091	2.944	.597	.596	.903	.906	.997
							6	.093	3.012	.597	.555	.896	.964	.929
						*	7	.094	3.008	.597	.555	.896	.965	.929
14X14	1.68 TOP	581.	1.04	2190.										
					140.05		3	.181	1.040	.296	.340	.875	.761	1.150
							4	.165	1.020	.296	.381	.863	.670	1.288
							5	.160	1.062	.296	.370	.862	.689	1.251
						*	6	.181	1.080	.296	.322	.876	.806	1.088
14X14	1.68 TOP	553.	1.01	2405.										
					140.05		3	.137	1.007	.349	.351	.841	.835	1.007
							4	.115	.989	.349	.396	.822	.725	1.133
							5	.109	1.030	.349	.387	.821	.740	1.109
						*	6	.137	1.046	.349	.334	.844	.880	.958
14X14	1.68 TOP	590.	1.98	2415.										
					122.65		2	.047	1.916	.557	.579	.956	.919	1.040
							3	.046	1.918	.557	.580	.956	.918	1.042
							6	.052	1.964	.557	.545	.955	.976	.978
						*	7	.051	1.959	.557	.544	.955	.977	.978
14X14	1.68 TOP	561.	1.98	2415.										
					122.65		2	-.005	1.998	.638	.671	.956	.909	1.052
							3	-.005	2.000	.638	.673	.956	.907	1.055
							6	-.000	2.070	.638	.637	.957	.958	.998
						*	7	-.000	2.069	.638	.637	.957	.959	.998
14X14	1.68 TOP	552.	1.98	2215.										
					122.65		2	.022	1.917	.630	.655	.958	.921	1.040
							3	.022	1.922	.630	.657	.958	.918	1.043
							6	.027	1.961	.630	.615	.958	.980	.977
						*	7	.027	1.956	.630	.614	.958	.982	.975

SUMMARY OF CE CHF TESTS

CASE		INLET						CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z		CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 TOP	540.	1.94	2000.										
					140.05		3	.100	1.834	.547	.530	.859	.887	.969
							4	.084	1.886	.547	.593	.847	.782	1.083
							5	.080	1.962	.547	.575	.848	.807	1.051
						*	6	.101	1.948	.547	.501	.862	.941	.916
					140.05		1	.089	1.866	.547	.581	.850	.799	1.064
							2	.101	1.879	.547	.528	.860	.890	.966
						*	7	.102	1.940	.547	.499	.862	.944	.913
							8	.096	1.898	.547	.539	.857	.870	.985
					122.65		2	.047	1.840	.620	.633	.957	.937	1.021
							3	.046	1.843	.620	.634	.957	.936	1.023
						*	6	.052	1.879	.620	.591	.956	1.004	.953
							7	.051	1.872	.620	.591	.956	1.004	.952
14X14	1.68 TOP	525.	1.98	2400.										
					122.65		2	-.070	2.003	.715	.779	.948	.870	1.090
							3	-.070	2.004	.715	.780	.948	.869	1.092
							6	-.065	2.079	.715	.740	.950	.917	1.035
						*	7	-.065	2.078	.715	.739	.950	.918	1.035
14X14	1.68 TOP	521.	1.98	2195.										
					122.65		2	-.026	2.004	.695	.760	.954	.873	1.093
							3	-.027	2.005	.695	.761	.954	.871	1.095
							6	-.022	2.079	.695	.719	.955	.923	1.035
						*	7	-.022	2.078	.695	.719	.955	.923	1.035
14X14	1.68 TOP	503.	1.90	1995.										
					140.05		3	.064	1.802	.620	.597	.829	.861	.963
							4	.046	1.831	.620	.669	.818	.759	1.078
							5	.043	1.906	.620	.647	.819	.784	1.044
						*	6	.066	1.861	.620	.563	.833	.918	.907
14X14	1.68 TOP	574.	2.92	2395.										
					122.65		2	-.019	2.952	.788	.882	.958	.855	1.120
							3	-.020	2.954	.788	.884	.958	.854	1.122
							6	-.015	3.056	.788	.845	.957	.893	1.072
						*	7	-.015	3.055	.788	.844	.957	.893	1.072
14X14	1.68 TOP	573.	3.01	2195.										
					122.65		2	.019	2.930	.763	.820	.953	.887	1.074
							3	.019	2.936	.763	.822	.953	.885	1.077
							6	.023	2.996	.763	.775	.951	.937	1.015
						*	7	.023	2.988	.763	.774	.951	.939	1.014
14X14	1.68 TOP	564.	3.01	1995.										
					122.65		2	.040	2.880	.747	.766	.946	.923	1.025
							3	.040	2.883	.747	.767	.947	.922	1.027
							6	.044	2.940	.747	.719	.944	.980	.963
						*	7	.044	2.930	.747	.718	.944	.982	.961
14X14	1.68 TOP	531.	3.01	2400.										
					122.65		2	-.107	3.045	.951	1.084	.950	.833	1.140
							3	-.108	3.047	.951	1.086	.950	.832	1.142
							6	-.103	3.156	.951	1.040	.951	.869	1.094
						*	7	-.102	3.156	.951	1.040	.951	.870	1.094
14X14	1.68 TOP	525.	3.01	2205.										
					122.65		2	-.063	3.046	.936	1.043	.955	.858	1.114
							3	-.064	3.047	.936	1.045	.955	.856	1.116
							6	-.059	3.156	.936	.998	.956	.897	1.066
						*	7	-.059	3.156	.936	.997	.956	.897	1.066

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z		CONDITIONS AT CHF CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 TOP	514.	3.01	2005.										
					122.65		2	-.037	3.047	.926	1.011	.957	.877	1.091
							3	-.037	3.049	.926	1.013	.957	.876	1.093
							6	-.033	3.157	.926	.964	.958	.920	1.041
						*	7	-.033	3.157	.926	.964	.958	.920	1.041
14X14	1.68 TOP	545.	1.01	2200.										
					140.05		3	.160	1.006	.349	.366	.858	.818	1.049
							4	.139	.989	.349	.413	.841	.711	1.182
							5	.133	1.031	.349	.402	.840	.729	1.152
						*	6	.159	1.046	.349	.347	.861	.866	.994
14X14	1.68 TOP	515.	.99	2395.										
					140.05		3	.101	.976	.393	.393	.811	.811	1.000
							4	.077	.961	.393	.442	.795	.707	1.124
							5	.072	.999	.393	.430	.795	.728	1.093
						*	6	.103	1.012	.393	.372	.815	.863	.945
14X14	1.68 TOP	504.	1.00	2195.										
					140.05		3	.111	.987	.392	.430	.819	.746	1.098
							4	.089	.974	.392	.483	.803	.652	1.231
							5	.084	1.014	.392	.467	.803	.673	1.192
						*	6	.112	1.025	.392	.406	.822	.794	1.036
14X14	1.68 TOP	478.	1.00	2405.										
					140.05		3	.041	.974	.434	.461	.781	.736	1.062
							4	.017	.982	.434	.517	.776	.651	1.192
							5	.011	1.032	.434	.504	.776	.668	1.162
						*	6	.044	1.012	.434	.436	.783	.780	1.005
14X14	1.68 TOP	479.	.99	2205.										
					140.05		3	.069	.963	.409	.480	.792	.675	1.173
							4	.047	.958	.409	.535	.783	.598	1.308
							5	.043	.999	.409	.518	.783	.619	1.265
						*	6	.072	.998	.409	.451	.795	.721	1.103
14X14	1.68 TOP	470.	.99	1995.										
					140.05		3	.117	.973	.422	.470	.822	.738	1.113
							4	.094	.963	.422	.528	.806	.644	1.251
							5	.090	1.003	.422	.509	.805	.667	1.207
						*	6	.117	1.011	.422	.442	.825	.788	1.048
					140.05		1	.101	.954	.422	.519	.809	.658	1.229
							2	.118	.970	.422	.468	.823	.741	1.110
						*	7	.118	1.007	.422	.442	.825	.788	1.047
							8	.111	.979	.422	.478	.818	.722	1.133
14X14	1.68 TOP	529.	1.99	2215.										
					122.65		2	-.013	2.013	.692	.732	.956	.903	1.058
							3	-.013	2.014	.692	.733	.956	.901	1.060
							6	-.009	2.087	.692	.693	.956	.955	1.002
						*	7	-.008	2.087	.692	.693	.956	.955	1.001
14X14	1.68 TOP	507.	2.00	2205.										
					122.65		2	-.041	2.024	.750	.788	.952	.906	1.051
							3	-.042	2.025	.750	.790	.952	.905	1.053
							6	-.037	2.100	.750	.747	.954	.958	.995
						*	7	-.037	2.100	.750	.747	.954	.958	.995
14X14	1.68 TOP	492.	2.00	1755.										
					140.05		3	.052	1.884	.592	.651	.824	.749	1.100
							4	.038	1.925	.592	.724	.816	.667	1.223
							5	.035	2.006	.592	.698	.817	.693	1.180
						*	6	.054	1.946	.592	.611	.828	.891	1.033

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 TOP	558.	2.99	1750.									
					122.65	3	.062	2.889	.676	.686	.933	.921	1.014
						4	.052	2.915	.676	.762	.940	.834	1.127
						5	.052	2.992	.676	.729	.933	.870	1.078
						* 6	.066	2.945	.676	.639	.929	.983	.945
14X14	1.68 TOP	518.	3.00	1765.									
					140.05	3	.056	2.848	.754	.705	.858	.918	.935
						4	.043	2.888	.754	.790	.850	.811	1.048
						5	.041	2.996	.754	.767	.851	.837	1.017
						* 6	.058	2.934	.754	.665	.861	.976	.882
14X14	1.68 TOP	556.	1.51	2205.									
					140.05	3	.130	1.483	.458	.434	.864	.912	.947
						4	.111	1.473	.458	.487	.849	.799	1.063
						5	.107	1.534	.458	.475	.849	.819	1.036
						* 6	.130	1.537	.458	.411	.866	.964	.898
					140.05	1	.117	1.459	.458	.477	.853	.819	1.042
						2	.131	1.479	.458	.432	.864	.916	.943
						* 7	.132	1.530	.458	.409	.867	.970	.893
						8	.126	1.491	.458	.441	.861	.898	.964
					122.65	2	.068	1.448	.519	.527	.957	.943	1.015
						3	.068	1.450	.519	.528	.957	.942	1.016
						6	.074	1.482	.519	.491	.956	1.011	.946
						* 7	.073	1.479	.519	.492	.956	1.010	.947
14X14	1.68 TOP	554.	2.43	2215.									
					122.65	2	.003	2.391	.719	.763	.958	.903	1.060
						3	.002	2.454	.719	.774	.958	.890	1.076
						6	.007	2.502	.719	.728	.957	.946	1.012
						* 7	.007	2.500	.719	.727	.957	.947	1.011
14X14	1.68 TOP	593.	2.46	2200.									
					122.65	2	.079	2.400	.612	.610	.935	.939	.996
						3	.079	2.403	.612	.611	.935	.937	.998
						6	.083	2.457	.612	.573	.930	.994	.936
						* 7	.083	2.454	.612	.573	.931	.994	.936
14X14	1.68 TOP	582.	1.48	2190.									
					140.05	3	.158	1.466	.393	.391	.879	.885	.993
						4	.142	1.447	.393	.437	.870	.783	1.111
						5	.137	1.507	.393	.426	.869	.803	1.082
						* 6	.158	1.520	.393	.370	.880	.935	.941

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	624.	2.00	2405.									
					70.45	7	.067	1.966	.167	.524	3.497	1.116	3.132
						* 8	.051	1.965	.167	.581	3.427	.987	3.471
						9	.045	1.991	.167	.594	3.405	.960	3.548
						10	.037	2.095	.167	.579	3.392	.980	3.462
14X14	1.68 BOT	626.	1.99	2200.									
					87.85	6	.168	2.015	.109	.380	5.254	1.508	3.485
						7	.167	2.014	.109	.380	5.252	1.505	3.489
						10	.141	2.080	.109	.425	5.144	1.319	3.900
						* 11	.149	1.915	.109	.467	5.143	1.200	4.285
					105.25	6	.192	2.047	.222	.340	2.172	1.418	1.531
						7	.193	2.042	.222	.338	2.173	1.427	1.523
						10	.171	2.089	.222	.374	2.121	1.260	1.684
						* 11	.175	1.920	.222	.418	2.107	1.119	1.882
14X14	1.68 BOT	612.	2.02	2005.									
					105.25	6	.172	2.075	.217	.365	2.122	1.263	1.680
						7	.173	2.070	.217	.363	2.124	1.271	1.672
						10	.154	2.119	.217	.398	2.065	1.127	1.833
						* 11	.157	1.949	.217	.452	2.046	.984	2.080
14X14	1.68 BOT	594.	2.01	2400.									
					53.05*	7	-.078	2.095	.272	.762	2.851	1.017	2.804
						8	-.094	2.039	.272	.824	2.794	.922	3.031
						9	-.098	2.044	.272	.832	2.780	.908	3.062
						10	-.108	2.122	.272	.806	2.763	.932	2.965
					70.45	5	-.024	2.048	.206	.715	3.033	.874	3.469
						* 6	.004	2.062	.206	.632	3.207	1.046	3.065
						11	-.016	1.940	.206	.741	3.045	.847	3.594
						12	-.051	2.083	.206	.754	2.884	.788	3.660
					53.05	6	-.076	2.093	.271	.759	2.856	1.020	2.799
						* 7	-.078	2.095	.271	.762	2.851	1.014	2.811
						10	-.108	2.122	.271	.806	2.763	.930	2.973
						11	-.092	1.939	.271	.869	2.779	.867	3.205
14X14	1.68 BOT	574.	2.05	2205.									
					87.85	6	.078	1.985	.152	.531	4.548	1.299	3.501
						7	.077	1.983	.152	.534	4.531	1.288	3.517
						10	.044	2.128	.152	.601	4.258	1.076	3.957
						* 11	.056	1.935	.152	.650	4.276	.999	4.282
14X14	1.68 BOT	577.	2.02	2005.									
					105.25	6	.133	2.048	.277	.442	1.965	1.230	1.597
						7	.134	2.040	.277	.440	1.969	1.240	1.588
						10	.110	2.106	.277	.487	1.876	1.068	1.757
						* 11	.113	1.947	.277	.549	1.858	.938	1.980
14X14	1.68 BOT	582.	2.06	1745.									
					87.85	7	.130	2.057	.117	.439	5.062	1.352	3.744
						8	.119	2.036	.117	.495	4.962	1.175	4.225
						* 9	.112	2.065	.117	.511	4.920	1.129	4.358
						10	.108	2.143	.117	.487	4.909	1.180	4.160
					87.85	6	.131	2.059	.117	.438	5.065	1.351	3.743
						7	.130	2.057	.117	.439	5.062	1.349	3.753
						10	.108	2.143	.117	.487	4.909	1.177	4.170
						* 11	.114	1.978	.117	.550	4.895	1.041	4.703

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	565.	1.98	2410.									
					87.85	5	-.029	2.020	.154	.715	3.432	.740	4.639
						* 6	.004	2.040	.154	.627	3.777	.928	4.071
						11	-.021	1.911	.154	.740	3.452	.719	4.803
						12	-.061	2.055	.154	.761	3.156	.639	4.937
					70.45*	6	-.063	2.064	.230	.732	2.807	.881	3.187
						7	-.065	2.065	.230	.735	2.796	.874	3.200
						10	-.104	2.094	.230	.790	2.582	.750	3.441
						11	-.087	1.908	.230	.849	2.615	.707	3.697
14X14	1.68 BOT	564.	1.97	2205.									
					87.85	6	.074	1.889	.157	.529	4.447	1.321	3.366
						7	.072	1.886	.157	.531	4.430	1.311	3.379
						10	.038	2.043	.157	.602	4.145	1.082	3.830
						* 11	.050	1.849	.157	.649	4.165	1.009	4.129
					105.25	6	.111	1.973	.320	.475	1.851	1.247	1.484
						7	.111	1.965	.320	.473	1.852	1.253	1.478
						* 10	.081	2.046	.320	.523	1.738	1.054	1.648
						11	.086	1.895	.320	.587	1.727	.942	1.833
14X14	1.68 BOT	549.	1.98	2005.									
					105.25	6	.103	1.978	.314	.498	1.820	1.147	1.587
						7	.104	1.968	.314	.496	1.821	1.152	1.581
						* 10	.077	2.054	.314	.549	1.722	.984	1.751
						11	.081	1.905	.314	.617	1.709	.868	1.968
14X14	1.68 BOT	545.	1.98	1755.									
					105.25	6	.115	1.992	.286	.476	1.874	1.126	1.664
						7	.116	1.982	.286	.473	1.877	1.134	1.655
						* 10	.092	2.056	.286	.522	1.790	.980	1.826
						11	.096	1.908	.286	.597	1.771	.849	2.087
14X14	1.68 BOT	505.	2.00	2405.									
					87.85*	7	-.135	2.099	.178	.849	2.589	.542	4.781
						8	-.155	2.031	.178	.919	2.433	.471	5.170
						9	-.166	2.039	.178	.937	2.374	.450	5.272
						10	-.176	2.117	.178	.905	2.343	.460	5.096
14X14	1.68 BOT	505.	1.93	2205.									
					87.85	5	-.093	1.970	.173	.872	2.843	.564	5.044
						* 6	-.060	2.023	.173	.774	3.150	.704	4.472
						11	-.084	1.861	.173	.906	2.856	.545	5.240
						12	-.125	1.998	.173	.924	2.617	.490	5.344
14X14	1.68 BOT	496.	1.90	2005.									
					105.25*	6	.056	1.818	.378	.577	1.592	1.043	1.526
						7	.056	1.807	.378	.576	1.591	1.045	1.522
						10	.025	1.985	.378	.644	1.519	.892	1.703
						11	.033	1.782	.378	.709	1.508	.805	1.873
14X14	1.68 BOT	498.	1.94	1745.									
					105.25	6	.079	1.878	.348	.555	1.693	1.061	1.596
						* 7	.078	1.871	.348	.557	1.689	1.057	1.599
						10	.051	1.992	.348	.615	1.609	.910	1.768
						11	.058	1.844	.348	.690	1.605	.809	1.983
					105.25*	7	.078	1.871	.349	.557	1.689	1.059	1.595
						8	.065	1.864	.349	.622	1.635	.918	1.782
						9	.055	1.914	.349	.646	1.610	.870	1.851
						10	.051	1.992	.349	.615	1.609	.913	1.763

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	604.	2.48	2395.									
					70.45	7	.034	2.395	.246	.637	3.445	1.331	2.588
						8	.016	2.441	.246	.716	3.368	1.157	2.912
						* 9	.009	2.494	.246	.738	3.346	1.115	2.999
						10	.000	2.657	.246	.731	3.335	1.123	2.970
14X14	1.68 BOT	590.	2.53	2205.									
					70.45	7	.037	2.411	.249	.656	3.461	1.313	2.637
						8	.021	2.470	.249	.740	3.396	1.142	2.973
						* 9	.014	2.528	.249	.762	3.379	1.103	3.062
						10	.006	2.704	.249	.754	3.376	1.115	3.028
					87.85	7	.091	2.477	.167	.559	4.890	1.458	3.354
						8	.075	2.474	.167	.626	4.744	1.262	3.758
						* 9	.067	2.516	.167	.649	4.683	1.203	3.891
						10	.061	2.626	.167	.631	4.661	1.231	3.786
					87.85	6	.092	2.477	.166	.557	4.900	1.463	3.350
						7	.091	2.477	.166	.559	4.890	1.454	3.362
						10	.061	2.626	.166	.631	4.661	1.228	3.796
						* 11	.071	2.410	.166	.681	4.678	1.141	4.094
14X14	1.68 BOT	593.	2.47	2005.									
					87.85	6	.129	2.473	.153	.469	5.170	1.692	3.057
						7	.129	2.471	.153	.470	5.167	1.687	3.062
						10	.102	2.585	.153	.534	5.015	1.440	3.481
						* 11	.109	2.389	.153	.586	5.014	1.312	3.820
					70.45	7	.084	2.408	.230	.567	3.617	1.464	2.472
						8	.069	2.428	.230	.640	3.581	1.284	2.790
						* 9	.063	2.465	.230	.658	3.568	1.246	2.865
						10	.056	2.583	.230	.641	3.561	1.275	2.792
					105.25	7	.155	2.522	.313	.412	2.125	1.615	1.316
						8	.144	2.473	.313	.461	2.083	1.413	1.474
						* 9	.136	2.507	.313	.482	2.058	1.335	1.542
						10	.132	2.598	.313	.463	2.056	1.390	1.479
					70.45	6	.085	2.403	.229	.563	3.621	1.472	2.460
						7	.084	2.408	.229	.567	3.617	1.460	2.478
						10	.056	2.583	.229	.641	3.561	1.272	2.799
						* 11	.067	2.357	.229	.690	3.567	1.184	3.014
14X14	1.68 BOT	593.	2.47	1765.									
					87.85	7	.151	2.472	.136	.383	5.260	1.875	2.806
						8	.139	2.445	.136	.439	5.214	1.619	3.221
						* 9	.133	2.477	.136	.457	5.190	1.549	3.350
						10	.128	2.570	.136	.439	5.183	1.612	3.216
					87.85	6	.151	2.474	.136	.382	5.261	1.874	2.808
						7	.151	2.472	.136	.383	5.260	1.870	2.813
						10	.128	2.570	.136	.439	5.183	1.608	3.224
						* 11	.134	2.373	.136	.492	5.176	1.433	3.612
					70.45	6	.116	2.422	.203	.475	3.651	1.561	2.338
						7	.115	2.426	.203	.479	3.651	1.550	2.355
						10	.090	2.564	.203	.541	3.640	1.366	2.664
						* 11	.100	2.359	.203	.594	3.641	1.246	2.923
14X14	1.68 BOT	622.	3.00	2405.									
					70.45	7	.055	2.914	.247	.681	3.597	1.305	2.756
						8	.040	2.937	.247	.759	3.552	1.157	3.070
						* 9	.034	2.981	.247	.779	3.538	1.123	3.150
						10	.027	3.142	.247	.769	3.532	1.135	3.112

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	621.	3.00	2205.									
					70.45	7	.091	2.958	.231	.613	3.651	1.374	2.658
						8	.078	2.959	.231	.685	3.642	1.227	2.967
						* 9	.072	2.994	.231	.702	3.637	1.195	3.044
						10	.066	3.126	.231	.688	3.633	1.218	2.982
14X14	1.68 BOT	604.	2.99	2010.									
					70.45	7	.084	2.924	.235	.612	3.647	1.400	2.605
						8	.071	2.936	.235	.687	3.632	1.241	2.926
						* 9	.066	2.976	.235	.705	3.626	1.207	3.094
						10	.060	3.111	.235	.690	3.623	1.234	2.937
14X14	1.68 BOT	594.	2.99	2405.									
					70.45	7	-.010	3.101	.294	.842	3.369	1.177	2.863
						8	-.027	3.024	.294	.918	3.268	1.053	3.104
						* 9	-.034	3.035	.294	.929	3.235	1.024	3.158
						10	-.043	3.154	.294	.910	3.208	1.037	3.093
14X14	1.68 BOT	594.	3.00	2210.									
					70.45	7	.032	2.878	.275	.735	3.516	1.317	2.670
						8	.016	2.945	.275	.829	3.464	1.151	3.010
						* 9	.011	3.013	.275	.855	3.450	1.111	3.106
						10	.003	3.219	.275	.852	3.450	1.115	3.092
14X14	1.68 BOT	587.	3.02	1755.									
					87.85	7	.117	3.007	.152	.479	5.204	1.652	3.150
						8	.106	2.983	.152	.544	5.144	1.438	3.577
						* 9	.101	3.024	.152	.565	5.118	1.379	3.712
						10	.096	3.138	.152	.545	5.114	1.428	3.580
14X14	1.68 BOT	569.	3.01	2095.									
					87.85	7	.069	2.891	.195	.648	4.834	1.451	3.331
						8	.055	2.907	.195	.729	4.710	1.258	3.745
						* 9	.048	2.966	.195	.756	4.664	1.201	3.883
						10	.042	3.112	.195	.738	4.658	1.228	3.792
					70.45	7	.020	2.941	.291	.782	3.479	1.293	2.691
						8	.006	3.047	.291	.888	3.435	1.124	3.056
						* 9	.001	3.070	.291	.908	3.414	1.093	3.123
						10	-.007	3.199	.291	.888	3.401	1.113	3.056
					87.85	6	.070	2.892	.194	.645	4.845	1.457	3.324
						7	.069	2.891	.194	.648	4.834	1.447	3.340
						10	.042	3.112	.194	.738	4.658	1.225	3.801
						* 11	.052	2.837	.194	.790	4.653	1.143	4.070
					87.85	5	.045	2.987	.195	.766	4.645	1.189	3.937
						6	.070	2.892	.195	.645	4.845	1.461	3.316
						11	.052	2.837	.195	.790	4.653	1.146	4.060
						* 12	.024	3.248	.195	.855	4.527	1.030	4.395
14X14	1.68 BOT	558.	3.01	1745.									
					87.85	7	.086	2.909	.185	.572	4.985	1.613	3.090
						8	.073	2.924	.185	.651	4.884	1.389	3.516
						* 9	.067	2.982	.185	.677	4.844	1.325	3.657
						10	.062	3.108	.185	.656	4.837	1.364	3.545
					87.85	5	.064	3.006	.185	.687	4.830	1.301	3.712
						6	.087	2.910	.185	.570	4.991	1.622	3.077
						11	.069	2.867	.185	.718	4.826	1.245	3.875
						* 12	.045	3.224	.185	.767	4.716	1.138	4.144
					87.85	6	.087	2.910	.185	.570	4.991	1.618	3.085
						7	.086	2.909	.185	.572	4.985	1.609	3.098
						10	.062	3.108	.185	.656	4.837	1.361	3.554
						* 11	.069	2.867	.185	.718	4.826	1.242	3.885

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	548.	3.03	2405.									
					87.85	5	-.118	3.083	.214	1.118	3.084	.591	5.217
						* 6	-.089	3.162	.214	1.012	3.368	.713	4.724
						11	-.111	2,923	.214	1.146	3.090	.578	5.349
						12	-.147	3.136	.214	1.175	2.872	.524	5.486
14X14	1.68 BOT	547.	3.00	2210.									
					87.85	5	-.050	3.056	.215	1.011	3.701	.786	4.711
						* 6	-.022	3.126	.215	.903	4.003	.952	4.207
						11	-.043	2.894	.215	1.039	3.707	.766	4.838
						12	-.076	3.107	.215	1.074	3.466	.693	5.002
14X14	1.68 BOT	547.	2.96	2005.									
					87.85	7	.041	2.773	.216	.705	4.526	1.386	3.265
						8	.026	2.852	.216	.891	4.398	1.185	3.710
						* 9	.018	2.950	.216	.836	4.358	1.125	3.875
						10	.012	3.165	.216	.828	4.377	1.141	3.837
14X14	1.68 BOT	528.	3.02	1760.									
					87.85	7	.042	2.783	.213	.700	4.535	1.383	3.280
						8	.028	2.876	.213	.797	4.431	1.186	3.735
						* 9	.021	2.982	.213	.832	4.403	1.130	3.898
						10	.016	3.189	.213	.817	4.426	1.156	3.829
					87.85	5	.019	3.031	.213	.848	4.393	1.106	3.971
						6	.043	2.783	.213	.697	4.545	1.391	3.267
						11	.026	2.795	.213	.862	4.375	1.083	4.040
						* 12	-.002	3.318	.213	.952	4.283	.960	4.460
14X14	1.68 BOT	532.	2.51	2405.									
					87.85	5	-.099	2.558	.216	.944	3.054	.698	4.376
						* 6	-.062	2.623	.216	.840	3.404	.874	3.893
						11	-.089	2.419	.216	.971	3.075	.683	4.500
						12	-.134	2.603	.216	1.005	2.795	.600	4.658
14X14	1.68 BOT	578.	2.01	2015.									
					105.25	6	.151	2.038	.291	.406	2.040	1.460	1.397
						7	.153	2.029	.291	.403	2.044	1.473	1.388
						10	.127	2.096	.291	.453	1.947	1.250	1.558
						* 11	.130	1.938	.291	.510	1.931	1.099	1.757
14X14	1.68 BOT	551.	1.99	2010.									
					105.25	6	.123	1.994	.328	.461	1.909	1.360	1.404
						7	.124	1.984	.328	.458	1.912	1.371	1.395
						10	.095	2.064	.328	.514	1.802	1.150	1.566
						* 11	.099	1.918	.328	.579	1.787	1.013	1.764
14X14	1.68 BOT	533.	2.01	2415.									
					70.45	5	-.131	2.047	.291	.879	2.420	.802	3.018
						* 6	-.090	2.089	.291	.774	2.662	1.001	2.659
						11	-.119	1.936	.291	.907	2.445	.785	3.114
						12	-.169	2.081	.291	.935	2.239	.698	3.210
14X14	1.68 BOT	532.	2.00	2205.									
					87.85	6	.035	1.901	.185	.595	4.030	1.253	3.216
						7	.034	1.903	.185	.597	4.019	1.245	3.223
						* 10	-.006	2.147	.185	.692	3.735	1.000	3.736
						11	.008	1.916	.185	.739	3.750	.939	3.994
14X14	1.68 BOT	515.	2.04	2005.									
					105.25	6	.074	1.980	.378	.556	1.695	1.152	1.472
						7	.073	1.971	.378	.555	1.692	1.150	1.471
						* 10	.043	2.103	.378	.620	1.603	.977	1.641
						11	.051	1.934	.378	.686	1.599	.880	1.816

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	528.	2.00	1755.									
					105.25	6	.106	1.992	.320	.495	1.837	1.188	1.546
						7	.107	1.980	.320	.492	1.839	1.195	1.533
						* 10	.082	2.069	.320	.547	1.747	1.022	1.709
						11	.085	1.927	.320	.624	1.730	.887	1.949
					105.25	7	.107	1.980	.321	.492	1.839	1.198	1.534
						8	.095	1.956	.321	.552	1.780	1.035	1.720
						* 9	.086	1.996	.321	.574	1.750	.978	1.790
						10	.082	2.069	.321	.547	1.747	1.025	1.704
14X14	1.68 BOT	535.	2.49	2200.									
					87.85	6	.016	2.471	.215	.707	4.128	1.257	3.285
						7	.015	2.477	.215	.710	4.121	1.250	3.298
						* 10	-.022	2.642	.215	.803	3.812	1.023	3.728
						11	-.009	2.411	.215	.859	3.839	.962	3.990
14X14	1.68 BOT	527.	2.51	2000.									
					87.85	6	.035	2.357	.209	.672	4.274	1.332	3.208
						7	.034	2.359	.209	.674	4.266	1.325	3.219
						10	.001	2.702	.209	.787	4.073	1.083	3.760
						* 11	.012	2.389	.209	.835	4.051	1.016	3.986
14X14	1.68 BOT	504.	2.51	1755.									
					87.85	6	.035	2.307	.209	.679	4.256	1.308	3.254
						7	.034	2.309	.209	.681	4.247	1.301	3.265
						10	.004	2.719	.209	.795	4.119	1.081	3.812
						* 11	.015	2.366	.209	.847	4.069	1.002	4.060
14X14	1.68 BOT	574.	1.56	2405.									
					87.85	6	.089	1.518	.136	.440	4.368	1.346	3.246
						7	.087	1.516	.136	.442	4.347	1.333	3.261
						10	.045	1.624	.136	.505	3.958	1.063	3.724
						* 11	.060	1.474	.136	.544	4.013	1.002	4.006
					87.85	7	.087	1.516	.136	.442	4.347	1.337	3.253
						8	.065	1.513	.136	.500	4.099	1.115	3.675
						* 9	.054	1.544	.136	.519	4.001	1.049	3.814
						10	.045	1.624	.136	.505	3.958	1.065	3.715
14X14	1.68 BOT	569.	1.52	2205.									
					105.25	6	.153	1.546	.263	.378	1.935	1.347	1.437
						7	.154	1.539	.263	.376	1.940	1.360	1.427
						10	.122	1.585	.263	.423	1.804	1.123	1.607
						* 11	.126	1.468	.263	.476	1.792	.992	1.806
					105.25	7	.154	1.539	.264	.376	1.940	1.363	1.423
						8	.139	1.508	.264	.422	1.861	1.165	1.597
						* 9	.127	1.530	.264	.441	1.815	1.086	1.671
						10	.122	1.585	.264	.423	1.804	1.125	1.603
14X14	1.68 BOT	562.	1.52	2005.									
					105.25	6	.154	1.546	.251	.392	1.940	1.240	1.564
						7	.155	1.539	.251	.389	1.945	1.252	1.553
						* 10	.126	1.585	.251	.435	1.826	1.053	1.734
						11	.130	1.467	.251	.495	1.810	.918	1.973
					105.25	7	.155	1.539	.251	.389	1.945	1.255	1.549
						8	.142	1.508	.251	.437	1.874	1.077	1.740
						* 9	.132	1.530	.251	.456	1.834	1.011	1.814
						10	.126	1.585	.251	.435	1.826	1.056	1.729
					87.85	6	.121	1.500	.123	.445	4.706	1.302	3.614
						7	.121	1.497	.123	.446	4.696	1.296	3.624
						10	.086	1.576	.123	.502	4.378	1.074	4.077
						* 11	.096	1.459	.123	.559	4.397	.968	4.543

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	551.	1.51	1755.									
					105.25	6	.161	1.535	.240	.393	1.968	1.203	1.636
						7	.162	1.527	.240	.390	1.973	1.214	1.625
						* 10	.136	1.574	.240	.434	1.868	1.035	1.805
						11	.140	1.456	.240	.503	1.849	.884	2.092
					105.25	7	.162	1.527	.241	.390	1.973	1.217	1.621
						8	.150	1.496	.241	.441	1.910	1.044	1.829
						* 9	.141	1.519	.241	.458	1.873	.985	1.903
						10	.136	1.574	.241	.434	1.868	1.037	1.800
14X14	1.68 BOT	540.	1.02	2405.									
					105.25	6	.145	1.053	.228	.326	1.733	1.212	1.430
						7	.146	1.048	.228	.324	1.737	1.223	1.420
						* 10	.103	1.064	.228	.371	1.565	.963	1.625
						11	.109	.993	.228	.415	1.563	.860	1.817
					105.25	7	.146	1.048	.229	.324	1.737	1.226	1.417
						* 8	.126	1.019	.229	.366	1.638	1.025	1.598
						9	.111	1.030	.229	.385	1.583	.941	1.682
						10	.103	1.064	.229	.371	1.565	.966	1.621
14X14	1.68 BOT	519.	1.02	2205.									
					105.25*	6	.136	1.052	.231	.376	1.691	1.042	1.623
						7	.137	1.045	.231	.374	1.695	1.050	1.614
						10	.097	1.062	.231	.420	1.544	.850	1.815
						11	.103	.995	.231	.476	1.539	.749	2.056
14X14	1.68 BOT	513.	1.02	2005.									
					105.25	6	.147	1.055	.225	.400	1.742	.981	1.776
						* 7	.149	1.046	.225	.397	1.749	.993	1.762
						10	.113	1.063	.225	.441	1.604	.818	1.961
						11	.116	.996	.225	.508	1.591	.705	2.255
14X14	1.68 BOT	510.	1.51	2410.									
					87.85	6	-.004	1.574	.168	.569	3.400	1.004	3.387
						* 7	-.005	1.574	.168	.570	3.389	.998	3.396
						10	-.057	1.599	.168	.635	2.934	.775	3.784
						11	-.039	1.457	.168	.686	2.994	.733	4.086
14X14	1.68 BOT	509.	1.50	2205.									
					105.25	6	.044	1.463	.303	.532	1.477	.840	1.759
						* 7	.045	1.455	.303	.531	1.477	.842	1.754
						10	.010	1.601	.303	.592	1.409	.720	1.957
						11	.019	1.427	.303	.650	1.399	.651	2.150
					87.85*	6	-.004	1.572	.149	.616	3.404	.822	4.144
						7	-.005	1.572	.149	.617	3.396	.818	4.153
						10	-.046	1.591	.149	.674	3.026	.667	4.538
						11	-.031	1.447	.149	.737	3.055	.616	4.956
14X14	1.68 BOT	484.	1,53	2015.									
					105.25	6	.106	1.470	.335	.468	1.705	1.222	1.396
						7	.106	1.461	.335	.467	1.704	1.223	1.393
						* 10	.073	1.579	.335	.523	1.600	1.025	1.561
						11	.082	1.424	.335	.582	1.595	.919	1.735
14X14	1.68 BOT	501.	1.51	2195.									
					105.25	6	.023	1.481	.327	.567	1.420	.819	1.733
						* 7	.028	1.452	.327	.556	1.429	.841	1.699
						10	-.014	1.585	.327	.628	1.349	.703	1.920
						11	-.004	1.441	.327	.693	1.348	.637	2.117

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	483.	1.51	1765.									
					105.25	6	.096	1.477	.311	.515	1.667	1.008	1.654
					*	7	.096	1.473	.311	.516	1.662	1.002	1.658
						10	.064	1.551	.311	.570	1.562	.853	1.832
						11	.072	1.440	.311	.643	1.565	.757	2.067
14X14	1.68 BOT	479.	2.01	2205.									
					105.25	6	-.001	2.103	.437	.683	1.461	.936	1.562
					*	7	.000	2.101	.437	.681	1.464	.940	1.557
						10	-.037	2.130	.437	.743	1.373	.808	1.700
						11	-.028	1.939	.437	.814	1.368	.736	1.860
14X14	1.68 BOT	473.	2.00	2015.									
					105.25*	6	.035	1.903	.433	.622	1.537	1.071	1.435
						7	.036	1.892	.433	.620	1.537	1.075	1.430
						10	.001	2.163	.433	.710	1.475	.901	1.638
						11	.010	1.930	.433	.775	1.463	.819	1.787
14X14	1.68 BOT	457.	2.02	1750.									
					105.25*	6	.039	1.882	.417	.643	1.545	1.002	1.543
						7	.039	1.870	.417	.641	1.544	1.003	1.539
						8	.010	2.185	.417	.778	1.504	.805	1.867
						11	.017	1.914	.417	.797	1.482	.774	1.914
14X14	1.68 BOT	473.	1.03	2405.									
					105.25	6	.047	1.025	.273	.433	1.382	.871	1.587
					*	7	.048	1.020	.273	.431	1.383	.875	1.580
						10	.000	1.115	.273	.494	1.299	.718	1.808
						11	.012	.991	.273	.539	1.297	.656	1.975
14X14	1.68 BOT	463.	1.02	2195.									
					105.25	6	.087	1.025	.274	.437	1.495	.936	1.598
					*	7	.087	1.019	.274	.437	1.494	.937	1.595
						10	.043	1.058	.274	.490	1.380	.771	1.789
						11	.055	.977	.274	.544	1.388	.698	1.988
14X14	1.68 BOT	457.	1.02	1995.									
					105.25*	6	.103	1.032	.267	.462	1.553	.895	1.734
						7	.102	1.027	.267	.463	1.549	.892	1.736
						10	.062	1.051	.267	.513	1.428	.742	1.925
						11	.073	.985	.267	.577	1.439	.665	2.165
14X14	1.68 BOT	406.	.99	2405.									
					87.85*	6	-.095	1.059	.153	.599	2.306	.589	3.917
						7	-.096	1.058	.153	.600	2.299	.586	3.923
						10	-.162	1.050	.153	.666	1.963	.451	4.354
						11	-.140	.961	.153	.726	2.012	.424	4.746
					105.25	6	-.016	1.062	.311	.510	1.262	.771	1.637
					*	7	-.014	1.060	.311	.507	1.265	.777	1.629
						10	-.068	1.052	.311	.561	1.192	.661	1.803
						11	-.048	.971	.311	.611	1.205	.614	1.963
14X14	1.68 BOT	385.	1.00	2225.									
					105.25	6	-.002	1.072	.320	.545	1.288	.756	1.704
					*	7	.000	1.070	.320	.543	1.291	.761	1.696
						8	-.050	1.064	.320	.643	1.215	.605	2.008
						11	-.039	.971	.320	.666	1.215	.584	2.080
14X14	1.68 BOT	369.	1.00	2005.									
					105.25	6	.029	.994	.323	.558	1.332	.771	1.727
					*	7	.031	.988	.323	.556	1.333	.776	1.719
						10	-.016	1.074	.323	.620	1.263	.658	1.919
						11	-.005	.981	.323	.694	1.265	.589	2.148

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
14X14	1.68 BOT	357.	.98	1755.									
					105.25	6	.111	.969	.337	.507	1.559	1.035	1.506
					*	7	.110	.964	.337	.509	1.553	1.028	1.511
						10	.063	.997	.337	.570	1.416	.837	1.692
						11	.076	.944	.337	.643	1.435	.752	1.909

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	595.	1.99	2405.									
					143.36	7	.155	1.989	.348	.395	1.587	1.395	1.138
						8	.180	1.875	.348	.371	1.578	1.480	1.066
						9	.153	1.924	.348	.417	1.588	1.324	1.200
						* 10	.128	2.036	.348	.440	1.587	1.253	1.267
					143.36	5	.129	1.985	.349	.460	1.587	1.206	1.317
						6	.151	1.993	.349	.404	1.588	1.374	1.156
						11	.131	1.876	.349	.490	1.586	1.131	1.402
						* 12	.098	2.093	.349	.517	1.576	1.064	1.482
16X16	1.47 TOP	577.	2.03	2205.									
					143.36	7	.157	2.093	.369	.398	1.587	1.472	1.078
						8	.181	1.895	.369	.372	1.577	1.565	1.008
						9	.155	1.949	.369	.422	1.588	1.389	1.143
						* 10	.131	2.066	.369	.446	1.588	1.314	1.209
					143.36	6	.152	2.019	.368	.407	1.588	1.436	1.105
						7	.157	2.003	.368	.398	1.587	1.467	1.082
						10	.131	2.066	.368	.446	1.588	1.309	1.213
						* 11	.134	1.909	.368	.502	1.587	1.164	1.364
					143.36	5	.132	2.015	.369	.468	1.588	1.252	1.268
						6	.152	2.019	.369	.407	1.588	1.440	1.102
						11	.134	1.909	.369	.502	1.587	1.167	1.360
						* 12	.105	2.136	.369	.523	1.581	1.114	1.419
16X16	1.47 TOP	569.	2.03	2000.									
					143.36	7	.159	1.995	.354	.389	1.586	1.444	1.098
						8	.181	1.887	.354	.367	1.578	1.522	1.036
						9	.157	1.940	.354	.414	1.587	1.356	1.170
						* 10	.137	2.055	.354	.434	1.589	1.297	1.225
					143.36	6	.156	2.011	.353	.396	1.587	1.413	1.123
						7	.159	1.995	.353	.389	1.586	1.439	1.102
						10	.137	2.055	.353	.434	1.589	1.292	1.230
						* 11	.139	1.899	.353	.495	1.588	1.132	1.403
					143.36	5	.138	2.005	.327	.456	1.589	1.140	1.394
						6	.156	2.011	.327	.396	1.587	1.311	1.211
						11	.139	1.899	.327	.495	1.588	1.050	1.512
						* 12	.110	2.128	.327	.517	1.583	1.001	1.581
16X16	1.47 TOP	548.	2.02	1755.									
					143.36	7	.157	1.965	.357	.382	1.587	1.485	1.069
						8	.177	1.857	.357	.363	1.581	1.557	1.015
						9	.155	1.913	.357	.410	1.588	1.384	1.147
						* 10	.135	2.029	.357	.427	1.589	1.330	1.195
					143.36	6	.153	1.983	.356	.389	1.588	1.452	1.093
						7	.157	1.965	.356	.382	1.587	1.479	1.073
						10	.135	2.029	.356	.427	1.589	1.325	1.199
						* 11	.138	1.872	.356	.496	1.588	1.139	1.394
					143.36*	2	.124	2.005	.330	.481	1.586	1.088	1.457
						3	.136	1.975	.330	.453	1.588	1.159	1.371
						6	.153	1.983	.330	.389	1.588	1.348	1.178
						7	.157	1.965	.330	.382	1.587	1.373	1.156
16X16	1.47 TOP	552.	2.04	2410.									
					143.36	7	.086	2.000	.424	.500	1.564	1.329	1.177
						8	.116	1.867	.424	.466	1.580	1.437	1.099
						9	.083	1.949	.424	.527	1.559	1.256	1.242
						* 10	.054	2.105	.424	.560	1.539	1.167	1.319

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	550.	2.03	2200.									
					143.36	7	.117	1.991	.408	.466	1.583	1.387	1.141
						8	.144	1.870	.408	.435	1.589	1.489	1.067
						9	.115	1.938	.403	.493	1.581	1.309	1.207
						* 10	.089	2.075	.403	.521	1.569	1.229	1.277
					143.36	6	.112	2.010	.407	.476	1.582	1.352	1.169
						7	.117	1.991	.407	.466	1.583	1.382	1.146
						10	.089	2.075	.407	.521	1.569	1.224	1.282
						* 11	.092	1.922	.407	.585	1.566	1.088	1.439
					143.36	5	.090	2.025	.408	.546	1.568	1.171	1.339
						6	.112	2.010	.408	.476	1.582	1.356	1.166
						11	.092	1.922	.408	.585	1.566	1.091	1.435
						* 12	.058	2.177	.408	.617	1.547	1.023	1.512
16X16	1.47 TOP	535.	2.04	2000.									
					143.36	7	.117	1.990	.407	.471	1.583	1.367	1.158
						8	.142	1.868	.407	.443	1.588	1.458	1.089
						9	.115	1.938	.407	.501	1.581	1.285	1.231
						* 10	.091	2.075	.407	.527	1.571	1.214	1.294
					143.36	6	.113	2.011	.406	.481	1.582	1.333	1.187
						7	.117	1.990	.406	.471	1.583	1.362	1.163
						10	.091	2.075	.406	.527	1.571	1.209	1.299
						* 11	.094	1.927	.406	.598	1.567	1.064	1.473
					143.36	5	.092	2.027	.407	.553	1.570	1.153	1.361
						6	.113	2.011	.407	.481	1.582	1.336	1.184
						11	.094	1.927	.407	.598	1.567	1.067	1.469
						* 12	.064	2.185	.407	.622	1.553	1.016	1.529
16X16	1.47 TOP	516.	2.04	1750.									
					143.36	7	.118	1.975	.403	.469	1.583	1.361	1.164
						8	.141	1.851	.403	.444	1.588	1.442	1.102
						9	.116	1.923	.403	.501	1.581	1.272	1.243
						* 10	.094	2.059	.403	.522	1.572	1.212	1.297
					143.36	6	.114	1.998	.401	.478	1.582	1.327	1.192
						7	.118	1.975	.401	.469	1.583	1.355	1.168
						10	.094	2.059	.401	.522	1.572	1.208	1.302
						* 11	.097	1.919	.401	.600	1.569	1.049	1.495
16X16	1.47 TOP	532.	2.03	2400.									
					143.36	7	.053	1.962	.448	.545	1.530	1.258	1.216
						8	.082	1.809	.448	.511	1.552	1.361	1.141
						9	.048	1.919	.448	.578	1.522	1.181	1.289
						* 10	.019	2.130	.448	.618	1.501	1.088	1.379
16X16	1.47 TOP	520.	2.03	2200.									
					143.36	7	.077	1.962	.451	.531	1.555	1.322	1.176
						8	.106	1.819	.451	.498	1.572	1.426	1.102
						9	.074	1.914	.451	.563	1.549	1.242	1.248
						* 10	.046	2.094	.451	.598	1.530	1.155	1.325
					143.36	6	.071	1.992	.450	.545	1.550	1.280	1.212
						7	.077	1.962	.450	.531	1.555	1.317	1.181
						10	.046	2.094	.450	.598	1.530	1.151	1.330
						* 11	.049	1.929	.450	.669	1.524	1.024	1.488

SUMMARY OF CE CHF TESTS

CASE		INLET				CONDITIONS AT CHF							
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	508.	2.03	2000.									
					143.36	7	.091	1.961	.449	.521	1.567	1.332	1.159
						8	.119	1.818	.449	.488	1.580	1.455	1.086
						9	.089	1.911	.449	.553	1.562	1.269	1.231
						* 10	.062	2.076	.449	.584	1.546	1.189	1.300
					143.36	6	.086	1.928	.448	.529	1.561	1.321	1.182
						7	.091	1.961	.448	.521	1.567	1.347	1.163
						10	.095	2.094	.448	.519	1.574	1.357	1.160
						* 11	.065	1.928	.448	.661	1.541	1.043	1.478
					143.36	5	.063	2.029	.449	.614	1.545	1.129	1.368
						6	.086	1.988	.449	.533	1.563	1.317	1.187
						11	.065	1.928	.449	.661	1.541	1.046	1.473
						* 12	.033	2.246	.449	.696	1.524	.982	1.551
16X16	1.47 TOP	493.	2.01	1750.									
					143.36	7	.099	1.931	.434	.512	1.571	1.333	1.178
						8	.124	1.794	.434	.484	1.582	1.420	1.114
						9	.097	1.881	.434	.545	1.568	1.249	1.256
						* 10	.073	2.040	.434	.571	1.555	1.183	1.314
					143.36	6	.094	1.957	.433	.522	1.569	1.300	1.207
						7	.099	1.931	.433	.512	1.571	1.328	1.183
						10	.073	2.040	.433	.571	1.555	1.178	1.319
						* 11	.076	1.903	.433	.654	1.551	1.026	1.512
16X16	1.47 TOP	493.	2.00	2225.									
					143.36	7	.039	1.915	.485	.587	1.511	1.248	1.211
						8	.070	1.724	.485	.547	1.534	1.359	1.129
						9	.035	1.875	.485	.624	1.503	1.168	1.286
						* 10	.006	2.140	.485	.671	1.485	1.073	1.384
					143.36	6	.032	1.962	.483	.605	1.505	1.201	1.253
						7	.039	1.915	.483	.587	1.511	1.243	1.215
						10	.006	2.140	.483	.671	1.485	1.069	1.389
						* 11	.008	1.940	.483	.747	1.474	.953	1.546
16X16	1.47 TOP	504.	2.01	2405.									
					143.36	7	.016	2.015	.486	.607	1.489	1.193	1.248
						8	.048	1.797	.486	.560	1.514	1.313	1.153
						9	.012	1.969	.486	.641	1.481	1.123	1.318
						* 10	-.020	2.136	.486	.678	1.451	1.041	1.394
16X16	1.47 TOP	483.	1.97	2005.									
					143.36	6	.061	1.902	.474	.574	1.536	1.268	1.211
						7	.069	1.860	.474	.557	1.541	1.311	1.176
						10	.037	2.038	.474	.631	1.516	1.138	1.333
						* 11	.040	1.874	.474	.712	1.509	1.003	1.504
					143.36	7	.069	1.860	.475	.557	1.541	1.316	1.171
						8	.096	1.712	.475	.525	1.560	1.411	1.105
						9	.064	1.822	.475	.595	1.534	1.226	1.251
						* 10	.037	2.038	.475	.631	1.516	1.142	1.328
16X16	1.47 TOP	445.	1.97	1755.									
					143.36	6	.063	1.871	.506	.589	1.535	1.318	1.165
						7	.070	1.827	.506	.572	1.541	1.363	1.130
						10	.039	2.024	.506	.648	1.518	1.185	1.281
						* 11	.042	1.871	.506	.738	1.512	1.036	1.460
					143.36	7	.070	1.827	.508	.572	1.541	1.368	1.126
						8	.098	1.664	.508	.541	1.559	1.462	1.066
						9	.066	1.788	.508	.614	1.533	1.268	1.209
						* 10	.039	2.024	.508	.648	1.518	1.189	1.276

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16 1.47	TOP	465.	1.97	2400.									
					143.36	7	-.023	2.053	.539	.672	1.441	1.156	1.246
						8	.012	1.885	.539	.628	1.475	1.266	1.165
						9	-.026	1.983	.539	.704	1.431	1.097	1.305
						* 10	-.062	2.074	.539	.732	1.391	1.024	1.359
16X16 1.47	TOP	456.	1.98	2195.									
					143.36	7	.009	2.020	.536	.656	1.481	1.210	1.224
						8	.041	1.752	.536	.603	1.502	1.334	1.125
						9	.006	1.979	.536	.695	1.473	1.136	1.297
						* 10	-.026	2.101	.536	.728	1.440	1.059	1.359
16X16 1.47	TOP	449.	1.97	2005.									
					143.36	7	.037	1.863	.526	.617	1.504	1.283	1.172
						8	.067	1.644	.526	.576	1.525	1.394	1.094
						9	.032	1.831	.526	.659	1.496	1.194	1.253
						* 10	.004	2.125	.526	.708	1.481	1.101	1.345
					143.36	6	.029	1.924	.524	.637	1.499	1.233	1.216
						7	.037	1.863	.524	.617	1.504	1.278	1.177
						10	.004	2.125	.524	.708	1.481	1.097	1.350
						* 11	.005	1.936	.524	.796	1.470	.968	1.518
16X16 1.47	TOP	600.	2.53	2405.									
					143.36	7	.140	2.153	.408	.435	1.589	1.490	1.066
						8	.163	2.387	.408	.447	1.574	1.438	1.095
						9	.138	2.446	.408	.498	1.587	1.300	1.221
						* 10	.115	2.589	.408	.525	1.589	1.236	1.286
16X16 1.47	TOP	591.	2.50	2200.									
					143.36	7	.141	2.475	.387	.460	1.585	1.331	1.191
						8	.161	2.347	.387	.437	1.578	1.396	1.130
						9	.138	2.409	.387	.487	1.587	1.260	1.259
						* 10	.119	2.548	.387	.509	1.589	1.206	1.318
16X16 1.47	TOP	588.	2.52	2005.									
					143.36	7	.153	2.492	.366	.416	1.579	1.389	1.137
						8	.170	2.366	.366	.395	1.569	1.453	1.080
						9	.151	2.425	.366	.442	1.582	1.308	1.209
						* 10	.134	2.560	.366	.461	1.587	1.259	1.260
					143.36	5	.135	2.497	.366	.484	1.587	1.198	1.324
						6	.150	2.510	.366	.424	1.581	1.363	1.160
						11	.136	2.360	.366	.522	1.588	1.112	1.428
						* 12	.112	2.633	.366	.545	1.589	1.066	1.491
16X16 1.47	TOP	581.	2.52	1750.									
					143.36	7	.172	2.505	.353	.320	1.561	1.723	.906
						8	.187	2.378	.353	.303	1.549	1.804	.858
						9	.171	2.436	.353	.347	1.566	1.594	.982
						* 10	.156	2.570	.353	.363	1.575	1.532	1.028
					129.16	7	.141	2.452	.412	.406	1.190	1.207	.986
						8	.156	2.340	.412	.392	1.172	1.233	.950
						9	.138	2.416	.412	.438	1.197	1.125	1.063
						* 10	.124	2.538	.412	.452	1.212	1.105	1.097
					143.36	6	.169	2.522	.352	.328	1.564	1.678	.932
						7	.172	2.505	.352	.320	1.561	1.717	.910
						10	.156	2.570	.352	.363	1.575	1.526	1.032
						* 11	.155	2.376	.352	.432	1.580	1.287	1.228

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	CONDITIONS AT CHF G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	531.	2.49	2405.									
					143.36	7	.037	2.412	.537	.633	1.537	1.304	1.178
						8	.067	2.194	.537	.587	1.555	1.423	1.093
						9	.033	2.361	.537	.669	1.530	1.228	1.246
						* 10	.005	2.648	.537	.725	1.512	1.119	1.351
16X16	1.47 TOP	530.	2.50	2205.									
					143.36	7	.062	2.405	.509	.606	1.560	1.309	1.192
						8	.088	2.227	.509	.570	1.573	1.404	1.121
						9	.059	2.352	.509	.643	1.555	1.231	1.263
						* 10	.034	2.592	.509	.686	1.541	1.143	1.348
16X16	1.47 TOP	528.	2.50	2000.									
					143.36	7	.089	2.424	.488	.556	1.579	1.388	1.138
						8	.114	2.256	.488	.520	1.586	1.489	1.066
						9	.087	2.364	.488	.589	1.577	1.306	1.207
						* 10	.064	2.558	.488	.624	1.567	1.226	1.278
16X16	1.47 TOP	504.	2.49	1750.									
					143.36	7	.083	2.392	.484	.559	1.575	1.363	1.156
						8	.106	2.214	.484	.527	1.583	1.454	1.088
						9	.081	2.333	.484	.595	1.572	1.278	1.230
						* 10	.060	2.537	.484	.627	1.563	1.206	1.296
					143.36	6	.079	2.425	.482	.572	1.573	1.326	1.186
						7	.083	2.392	.482	.559	1.575	1.357	1.160
						10	.060	2.537	.482	.627	1.563	1.201	1.301
						* 11	.063	2.363	.482	.713	1.559	1.054	1.478
16X16	1.47 TOP	625.	2.97	2425.									
					143.36	7	.181	2.968	.415	.454	1.527	1.396	1.094
						8	.201	2.827	.415	.427	1.498	1.456	1.029
						9	.178	2.888	.415	.476	1.536	1.338	1.148
						* 10	.159	3.038	.415	.502	1.556	1.286	1.210
16X16	1.47 TOP	616.	3.08	2200.									
					143.36	7	.172	3.083	.401	.440	1.537	1.398	1.099
						8	.188	2.936	.401	.416	1.517	1.460	1.039
						9	.169	2.999	.401	.465	1.544	1.331	1.160
						* 10	.153	3.155	.401	.488	1.559	1.279	1.219
					143.36	5	.154	3.077	.400	.510	1.561	1.224	1.275
						6	.169	3.099	.400	.449	1.541	1.375	1.121
						11	.155	2.907	.400	.541	1.565	1.158	1.352
						* 12	.127	3.236	.400	.589	1.579	1.073	1.472
16X16	1.47 TOP	608.	3.04	2000.									
					143.36	7	.168	3.047	.371	.395	1.545	1.451	1.065
						8	.182	2.902	.371	.375	1.530	1.513	1.011
						9	.166	2.963	.371	.421	1.550	1.369	1.133
						* 10	.152	3.118	.371	.441	1.562	1.316	1.186

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	591.	3.00	1750.									
					143.36	7	.168	2.998	.370	.315	1.547	1.818	.851
						8	.180	2.850	.370	.297	1.535	1.912	.803
						9	.166	2.915	.370	.342	1.552	1.682	.923
						* 10	.153	3.070	.370	.360	1.562	1.606	.973
					129.16	7	.140	2.941	.432	.404	1.161	1.243	.934
						8	.153	2.814	.432	.388	1.145	1.274	.898
						9	.137	2.896	.432	.437	1.169	1.157	1.010
						* 10	.125	3.034	.432	.452	1.183	1.131	1.045
					129.16	6	.165	3.016	.431	.323	1.104	1.471	.750
						7	.168	2.998	.431	.315	1.099	1.503	.731
						10	.153	3.070	.431	.360	1.127	1.348	.836
						* 11	.153	2.833	.431	.425	1.142	1.158	.986
					143.36	5	.152	3.001	.370	.386	1.565	1.501	1.043
						6	.165	3.016	.370	.323	1.550	1.774	.874
						11	.153	2.833	.370	.425	1.569	1.367	1.148
						* 12	.129	3.167	.370	.461	1.579	1.268	1.246
16X16	1.47 TOP	594.	2.99	2400.									
					143.36	7	.118	2.966	.482	.569	1.587	1.343	1.182
						8	.141	2.800	.482	.535	1.579	1.423	1.110
						9	.116	2.886	.482	.596	1.588	1.233	1.238
						* 10	.093	3.062	.482	.630	1.588	1.214	1.308
16X16	1.47 TOP	586.	3.05	2200.									
					143.36	7	.117	3.014	.462	.561	1.587	1.308	1.214
						8	.136	2.851	.462	.530	1.581	1.378	1.147
						9	.115	2.936	.462	.591	1.588	1.243	1.277
						* 10	.095	3.114	.462	.622	1.589	1.181	1.345
16X16	1.47 TOP	577.	3.05	2000.									
					143.36	7	.127	2.999	.451	.503	1.583	1.420	1.115
						8	.145	2.839	.451	.474	1.576	1.500	1.050
						9	.125	2.922	.451	.533	1.585	1.343	1.181
						* 10	.108	3.095	.451	.561	1.588	1.277	1.243
16X16	1.47 TOP	566.	3.05	1750.									
					143.36	7	.112	2.978	.436	.493	1.588	1.406	1.129
						8	.128	2.815	.436	.467	1.585	1.483	1.069
						9	.110	2.903	.436	.525	1.589	1.319	1.204
						* 10	.095	3.083	.436	.550	1.539	1.259	1.261
					143.36	5	.096	3.011	.436	.578	1.588	1.197	1.327
						6	.109	3.006	.436	.503	1.588	1.377	1.153
						11	.097	2.859	.436	.625	1.588	1.107	1.434
						* 12	.077	3.206	.436	.651	1.586	1.061	1.494
16X16	1.47 TOP	549.	3.00	2400.									
					143.36	7	.048	2.900	.587	.693	1.564	1.324	1.181
						8	.074	2.677	.587	.646	1.577	1.433	1.100
						9	.043	2.842	.587	.732	1.559	1.250	1.247
						* 10	.018	3.143	.587	.794	1.546	1.143	1.352
16X16	1.47 TOP	551.	3.01	2215.									
					143.36	7	.073	2.933	.549	.651	1.581	1.333	1.186
						8	.097	2.731	.549	.607	1.587	1.434	1.107
						9	.071	2.865	.549	.686	1.578	1.263	1.250
						* 10	.048	3.098	.549	.732	1.569	1.177	1.333

Table B.1 (Continued)

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	537.	3.04	2000.									
					143.36	7	.067	2.949	.527	.659	1.578	1.264	1.249
						8	.038	2.740	.527	.620	1.584	1.348	1.175
						9	.065	2.882	.527	.696	1.575	1.193	1.321
						* 10	.045	3.126	.527	.739	1.568	1.119	1.401
16X16	1.47 TOP	527.	3.03	1745.									
					143.36	7	.080	2.931	.496	.591	1.584	1.328	1.192
						8	.099	2.738	.496	.557	1.587	1.412	1.124
						9	.098	2.861	.496	.564	1.588	1.396	1.137
						* 10	.061	3.087	.496	.663	1.577	1.179	1.338
16X16	1.47 TOP	512.	3.03	2400.									
					143.36	7	-.012	3.148	.668	.856	1.515	1.182	1.282
						8	.016	2.865	.668	.790	1.534	1.297	1.183
						9	-.015	3.048	.668	.891	1.507	1.131	1.333
						* 10	-.044	3.184	.668	.926	1.479	1.067	1.386
16X16	1.47 TOP	500.	3.03	2200.									
					143.36	7	.005	3.122	.656	.839	1.532	1.198	1.279
						8	.030	2.744	.656	.761	1.543	1.331	1.159
						9	.002	3.039	.656	.879	1.526	1.139	1.340
						* 10	-.024	3.199	.656	.920	1.504	1.072	1.402
16X16	1.47 TOP	494.	3.03	2000.									
					143.36	7	.024	2.945	.628	.773	1.545	1.256	1.230
						8	.047	2.606	.628	.710	1.554	1.374	1.131
						9	.021	2.892	.628	.818	1.540	1.181	1.303
						* 10	-.001	3.249	.628	.889	1.530	1.081	1.416
16X16	1.47 TOP	494.	3.03	1750.									
					143.36	7	.053	2.846	.578	.671	1.567	1.351	1.160
						8	.073	2.609	.578	.630	1.575	1.444	1.090
						9	.050	2.795	.578	.716	1.563	1.263	1.238
						* 10	.030	3.133	.578	.769	1.557	1.170	1.331
16X16	1.47 TOP	577.	1.99	2200.									
					143.36	7	.151	1.966	.356	.405	1.588	1.395	1.138
						8	.174	1.860	.356	.382	1.582	1.476	1.072
						9	.149	1.912	.356	.430	1.589	1.317	1.207
						* 10	.126	2.027	.356	.452	1.587	1.249	1.270
					143.36	6	.147	1.982	.355	.414	1.589	1.363	1.166
						7	.151	1.966	.355	.405	1.588	1.390	1.143
						10	.126	2.027	.355	.452	1.587	1.245	1.275
						* 11	.129	1.872	.355	.509	1.585	1.105	1.434
16X16	1.47 TOP	580.	1.50	2400.									
					143.36	7	.165	1.496	.300	.340	1.589	1.401	1.134
						8	.194	1.417	.300	.314	1.585	1.512	1.048
						9	.163	1.452	.300	.359	1.588	1.326	1.198
						* 10	.134	1.537	.300	.382	1.579	1.238	1.275
					143.36	6	.160	1.507	.299	.347	1.588	1.366	1.162
						7	.165	1.496	.299	.340	1.589	1.396	1.138
						10	.134	1.537	.299	.382	1.579	1.234	1.280
						* 11	.138	1.416	.299	.428	1.577	1.101	1.433

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	510.	1.53	2400.									
					143.36	7	.065	1.479	.387	.467	1.510	1.249	1.209
						8	.100	1.371	.387	.436	1.541	1.367	1.127
						9	.060	1.445	.387	.497	1.501	1.167	1.286
						* 10	.027	1.601	.387	.532	1.470	1.068	1.377
					143.36	6	.056	1.508	.385	.482	1.501	1.199	1.253
						7	.065	1.479	.385	.467	1.510	1.244	1.214
						10	.027	1.601	.385	.532	1.470	1.064	1.382
						* 11	.030	1.463	.385	.595	1.462	.945	1.546
16X16	1.47 TOP	499.	1.53	2205.									
					143.36	6	.078	1.505	.385	.487	1.527	1.206	1.266
						7	.085	1.482	.385	.474	1.534	1.245	1.232
						10	.050	1.579	.385	.534	1.499	1.080	1.388
						* 11	.053	1.455	.385	.603	1.492	.953	1.567
					143.36	7	.085	1.482	.387	.474	1.534	1.249	1.227
						8	.118	1.377	.387	.444	1.560	1.359	1.148
						9	.082	1.444	.387	.504	1.526	1.170	1.304
						* 10	.050	1.579	.387	.534	1.499	1.084	1.383
16X16	1.47 TOP	491.	1.50	2005.									
					143.36	6	.107	1.476	.379	.468	1.556	1.258	1.237
						7	.112	1.459	.379	.459	1.560	1.288	1.211
						10	.078	1.531	.379	.517	1.529	1.120	1.366
						* 11	.084	1.425	.379	.586	1.528	.987	1.548
					143.36	7	.112	1.459	.380	.459	1.560	1.292	1.207
						8	.145	1.360	.380	.428	1.579	1.401	1.127
						9	.111	1.418	.380	.487	1.556	1.214	1.281
						* 10	.078	1.531	.380	.517	1.529	1.124	1.361
16X16	1.47 TOP	488.	1.50	1750.									
					143.36	7	.142	1.451	.367	.432	1.581	1.342	1.178
						8	.172	1.358	.367	.407	1.588	1.432	1.109
						9	.141	1.410	.367	.462	1.578	1.253	1.260
						* 10	.113	1.509	.367	.483	1.563	1.187	1.317
					143.36	2	.097	1.506	.339	.545	1.548	.964	1.606
						* 3	.114	1.473	.339	.513	1.562	1.034	1.511
						6	.137	1.467	.339	.441	1.579	1.215	1.299
						7	.142	1.451	.339	.432	1.581	1.240	1.274
					143.36	6	.137	1.467	.366	.441	1.579	1.310	1.205
						7	.142	1.451	.366	.432	1.581	1.337	1.183
						10	.113	1.509	.366	.483	1.563	1.183	1.322
						* 11	.117	1.409	.366	.560	1.560	1.020	1.530
					143.36*	1	.124	1.407	.338	.520	1.567	1.019	1.537
						2	.097	1.506	.338	.545	1.548	.961	1.611
						7	.142	1.451	.338	.432	1.581	1.237	1.278
						8	.172	1.358	.338	.407	1.588	1.320	1.203
					137.45	2	.075	1.531	.349	.589	1.509	.894	1.687
						* 3	.094	1.475	.349	.552	1.513	.956	1.582
						6	.118	1.448	.349	.477	1.515	1.109	1.366
						7	.123	1.432	.349	.469	1.515	1.127	1.344

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	507.	2.01	2005.									
					143.36	7	.094	1.942	.451	.513	1.568	1.380	1.137
						8	.123	1.800	.451	.479	1.581	1.491	1.061
						9	.092	1.892	.451	.545	1.564	1.295	1.207
						* 10	.065	2.055	.451	.577	1.548	1.212	1.277
					143.36	6	.089	1.968	.450	.525	1.565	1.341	1.167
						7	.094	1.942	.450	.513	1.568	1.375	1.141
						10	.065	2.055	.450	.577	1.548	1.207	1.282
						* 11	.068	1.909	.450	.653	1.543	1.063	1.451
16X16	1.47 TOP	550.	2.01	2205.									
					143.36	7	.109	1.973	.398	.477	1.579	1.318	1.198
						8	.136	1.852	.398	.449	1.587	1.410	1.126
						9	.107	1.920	.398	.505	1.576	1.244	1.267
						* 10	.081	2.058	.398	.532	1.563	1.170	1.335
					143.36	6	.104	1.992	.397	.487	1.577	1.284	1.228
						7	.109	1.973	.397	.477	1.579	1.313	1.203
						10	.081	2.058	.397	.532	1.563	1.166	1.340
						* 11	.084	1.905	.397	.598	1.558	1.035	1.506
16X16	1.47 TOP	550.	2.01	2205.									
					143.36	7	.109	1.973	.397	.477	1.579	1.314	1.202
						8	.136	1.852	.397	.449	1.587	1.406	1.129
						9	.107	1.920	.397	.505	1.576	1.241	1.270
						* 10	.081	2.058	.397	.532	1.563	1.167	1.339
					143.36	6	.104	1.992	.396	.487	1.577	1.280	1.231
						7	.109	1.973	.396	.477	1.579	1.309	1.206
						10	.081	2.058	.396	.532	1.563	1.163	1.344
						* 11	.084	1.905	.396	.598	1.558	1.032	1.510
16X16	1.47 TOP	480.	.98	2400.									
					143.36	6	.107	.983	.304	.363	1.511	1.266	1.194
						7	.116	.979	.304	.352	1.522	1.313	1.159
						10	.071	1.013	.304	.405	1.465	1.099	1.333
						* 11	.076	.935	.304	.457	1.460	.972	1.502
					143.36	7	.116	.979	.305	.352	1.522	1.318	1.154
						8	.160	.926	.305	.317	1.563	1.505	1.039
						9	.113	.949	.305	.373	1.514	1.237	1.223
						* 10	.071	1.013	.305	.405	1.465	1.104	1.328
16X16	1.47 TOP	465.	.99	2200.									
					143.36	6	.103	.995	.302	.414	1.507	1.099	1.371
						7	.111	.986	.302	.404	1.516	1.134	1.337
						* 10	.071	1.020	.302	.455	1.466	.973	1.506
						11	.075	.944	.302	.518	1.460	.852	1.714
16X16	1.47 TOP	461.	1.01	2000.									
					143.36	6	.148	1.008	.312	.399	1.560	1.218	1.281
						7	.155	1.000	.312	.390	1.565	1.250	1.252
						10	.116	1.029	.312	.442	1.527	1.078	1.417
						* 11	.121	.958	.312	.507	1.525	.938	1.626
16X16	1.47 TOP	410.	1.03	2405.									
					143.36*	6	-.002	1.094	.362	.498	1.373	.999	1.375
						7	.010	1.069	.362	.481	1.386	1.044	1.327
						10	-.039	1.100	.362	.540	1.323	.888	1.491
						11	-.039	.997	.362	.612	1.309	.775	1.689

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.47 TOP	402.	1.00	2200.									
					143.36	6	.057	.986	.359	.470	1.441	1.101	1.309
						7	.069	.964	.359	.453	1.455	1.153	1.262
						* 10	.022	1.059	.359	.520	1.401	.968	1.448
						11	.023	.970	.359	.593	1.390	.842	1.652
16X16	1.47 TOP	331.	1.00	2205.									
					143.36*	6	.028	1.008	.372	.506	1.403	1.032	1.360
						7	.040	.979	.372	.488	1.416	1.079	1.312
						10	-.007	1.087	.372	.558	1.365	.910	1.500
						11	-.006	.988	.372	.637	1.351	.790	1.711
16X16	1.47 TOP	368.	1.01	2005.									
					143.36	6	.074	.984	.386	.497	1.465	1.138	1.288
						7	.087	.961	.386	.480	1.480	1.191	1.243
						* 10	.039	1.050	.386	.547	1.425	1.006	1.416
						11	.042	.972	.386	.628	1.417	.871	1.626
					143.36	7	.087	.961	.388	.480	1.480	1.195	1.238
						8	.129	.902	.388	.447	1.528	1.323	1.154
						9	.081	.938	.388	.515	1.468	1.105	1.329
						* 10	.039	1.050	.388	.547	1.425	1.010	1.411
16X16	1.47 TOP	492.	1.52	2000.									
					143.36	6	.100	1.496	.376	.480	1.551	1.215	1.276
						7	.106	1.478	.376	.470	1.555	1.246	1.249
						10	.074	1.553	.376	.525	1.527	1.095	1.395
						* 11	.078	1.445	.376	.599	1.522	.956	1.592
16X16	1.47 TOP	502.	3.01	2205.									
					143.36	7	.005	3.100	.646	.834	1.532	1.187	1.290
						8	.030	2.729	.646	.758	1.543	1.316	1.173
						9	.002	3.019	.646	.875	1.525	1.127	1.354
						* 10	-.023	3.178	.646	.914	1.503	1.063	1.414
16X16	1.47 TOP	492.	3.00	2005.									
					143.36	7	.018	2.977	.623	.794	1.540	1.208	1.275
						8	.040	2.622	.623	.729	1.548	1.322	1.172
						9	.015	2.923	.623	.840	1.535	1.138	1.349
						* 10	-.008	3.199	.623	.897	1.522	1.056	1.441
16X16	1.47 TOP	529.	2.53	2200.									
					143.36	7	.057	2.427	.508	.621	1.556	1.273	1.222
						8	.079	2.244	.508	.590	1.568	1.349	1.162
						9	.050	2.378	.508	.663	1.548	1.185	1.306
						* 10	.026	2.638	.508	.709	1.535	1.099	1.397
16X16	1.47 TOP	534.	2.01	2005.									
					143.36	6	.107	1.983	.398	.491	1.578	1.289	1.233
						7	.112	1.963	.398	.481	1.580	1.307	1.209
						10	.086	2.048	.398	.536	1.566	1.163	1.346
						* 11	.089	1.901	.398	.607	1.562	1.023	1.526
					143.36	7	.112	1.963	.400	.481	1.580	1.312	1.204
						8	.135	1.849	.400	.457	1.587	1.388	1.144
						9	.109	1.910	.400	.511	1.577	1.234	1.278
						* 10	.086	2.048	.400	.536	1.566	1.168	1.341

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	593.	2.01	2400.									
					114.96*	6	.104	2.014	.401	.475	1.340	1.131	1.185
						7	.107	2.001	.401	.470	1.342	1.145	1.171
						10	.081	2.065	.401	.427	1.322	1.240	1.066
						11	.086	1.903	.401	.440	1.318	1.200	1.098
16X16	1.46 SYM	583.	2.01	2195.									
					114.96*	6	.124	2.008	.385	.456	1.353	1.143	1.184
						7	.126	1.995	.385	.451	1.353	1.155	1.172
						10	.103	2.053	.385	.410	1.341	1.259	1.065
						11	.108	1.894	.385	.427	1.338	1.208	1.108
16X16	1.46 SYM	580.	2.02	2005.									
					114.96*	6	.130	2.010	.374	.447	1.356	1.136	1.194
						7	.132	1.997	.374	.443	1.356	1.146	1.184
						10	.112	2.054	.374	.402	1.347	1.255	1.073
						11	.116	1.895	.374	.423	1.344	1.191	1.129
					129.16*	7	.158	1.981	.366	.392	1.253	1.168	1.073
						8	.174	1.899	.366	.336	1.266	1.379	.918
						9	.157	1.930	.366	.366	1.249	1.247	1.002
						10	.141	2.023	.366	.353	1.233	1.277	.966
					129.16*	6	.154	1.997	.360	.400	1.249	1.124	1.112
						7	.158	1.981	.360	.392	1.253	1.149	1.091
						10	.141	2.023	.360	.353	1.233	1.256	.982
						11	.139	1.917	.360	.383	1.224	1.149	1.066
					129.16	5	.139	2.000	.360	.401	1.229	1.103	1.114
						6	.154	1.997	.360	.400	1.249	1.124	1.112
						11	.139	1.917	.360	.383	1.224	1.149	1.066
					*	12	.109	2.126	.360	.410	1.194	1.048	1.139
16X16	1.46 SYM	565.	2.00	2395.									
					114.96*	6	.062	1.984	.457	.535	1.298	1.108	1.172
						7	.066	1.963	.457	.526	1.301	1.129	1.152
						10	.037	2.075	.457	.485	1.276	1.202	1.061
						11	.042	1.894	.457	.498	1.271	1.165	1.090
16X16	1.46 SYM	562.	2.02	2195.									
					114.96*	6	.080	2.007	.432	.532	1.318	1.071	1.230
						7	.083	1.991	.432	.525	1.320	1.086	1.215
						10	.058	2.081	.432	.479	1.299	1.173	1.107
						11	.062	1.917	.432	.498	1.294	1.124	1.151
16X16	1.46 SYM	552.	2.01	1995.									
					129.16*	6	.118	1.985	.404	.470	1.197	1.029	1.163
						7	.122	1.947	.404	.460	1.200	1.053	1.140
						10	.103	2.013	.404	.414	1.176	1.146	1.026
						11	.102	1.924	.404	.449	1.167	1.050	1.112
16X16	1.46 SYM	527.	2.01	2395.									
					114.96*	6	-.001	2.105	.524	.648	1.237	1.000	1.237
						7	.003	2.076	.524	.638	1.240	1.020	1.216
						10	-.029	2.121	.524	.574	1.211	1.105	1.096
						11	.018	1.971	.524	.539	1.250	1.215	1.028

Table B.1 (Continued)

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	530.	1.99	2215.									
					114.96*	6	.040	1.943	.495	.590	1.272	1.068	1.191
						7	.045	1.913	.495	.579	1.275	1.091	1.169
						10	.016	2.094	.495	.539	1.254	1.151	1.089
						11	.020	1.892	.495	.556	1.247	1.110	1.124
					129.16*	7	.082	1.937	.484	.520	1.138	1.053	1.075
						8	.106	1.831	.484	.439	1.166	1.285	.908
						9	.081	1.894	.484	.483	1.134	1.135	.999
						10	.057	2.016	.484	.472	1.110	1.138	.975
16X16	1.46 SYM	521.	1.99	2005.									
					129.16	6	.080	1.959	.452	.543	1.137	.948	1.200
					*	7	.084	1.932	.452	.531	1.142	.972	1.175
						10	.063	2.010	.452	.478	1.118	1.057	1.057
						11	.061	1.923	.452	.518	1.109	.969	1.144
					129.16*	7	.084	1.932	.460	.531	1.142	.988	1.155
						8	.106	1.829	.460	.452	1.167	1.187	.983
						9	.084	1.889	.460	.494	1.138	1.060	1.073
						10	.063	2.010	.460	.478	1.118	1.075	1.040
16X16	1.46 SYM	606.	2.45	2400.									
					114.96*	6	.128	2.452	.457	.487	1.359	1.273	1.067
						7	.163	2.406	.457	.425	1.342	1.443	.930
						10	.143	2.457	.457	.384	1.356	1.614	.840
						11	.141	2.353	.457	.410	1.358	1.512	.898
16X16	1.46 SYM	627.	2.97	2405.									
					114.96*	6	.160	2.977	.477	.491	1.316	1.279	1.029
						7	.162	2.963	.477	.486	1.313	1.290	1.018
						10	.141	3.032	.477	.443	1.342	1.447	.928
						11	.145	2.790	.477	.447	1.346	1.435	.938
					100.76	6	.149	2.960	.497	.511	1.252	1.219	1.028
					*	7	.123	2.941	.497	.557	1.311	1.170	1.120
						10	.100	3.038	.497	.509	1.337	1.307	1.023
						11	.109	2.805	.497	.509	1.337	1.306	1.023
					100.76*	5	.106	2.935	.497	.549	1.335	1.209	1.104
						6	.149	2.960	.497	.511	1.252	1.219	1.028
						11	.109	2.805	.497	.509	1.337	1.306	1.023
						12	.091	3.057	.497	.527	1.345	1.268	1.061
16X16	1.46 SYM	620.	3.04	2200.									
					114.96*	6	.158	3.053	.455	.471	1.317	1.274	1.034
						7	.159	3.040	.455	.467	1.315	1.284	1.025
						10	.141	3.108	.455	.426	1.339	1.433	.935
						11	.144	2.864	.455	.437	1.345	1.401	.960
16X16	1.46 SYM	603.	3.00	2015.									
					114.96*	6	.139	2.997	.447	.475	1.346	1.266	1.063
						7	.140	2.983	.447	.470	1.345	1.277	1.053
						10	.124	3.056	.447	.429	1.355	1.411	.961
						11	.127	2.817	.447	.446	1.357	1.360	.998

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	595.	2.97	2415.									
					114.96*	6	.096	2.957	.575	.610	1.357	1.279	1.061
						7	.099	2.938	.575	.603	1.358	1.294	1.049
						10	.073	3.052	.575	.554	1.348	1.399	.963
						11	.078	2.813	.575	.560	1.346	1.382	.974
					100.76	5	.034	2.945	.599	.678	1.353	1.196	1.132
					*	6	.050	2.907	.599	.689	1.357	1.179	1.151
						11	.034	2.808	.599	.631	1.351	1.282	1.054
						12	.011	3.147	.599	.669	1.346	1.205	1.118
					100.76*	6	.050	2.907	.599	.689	1.357	1.179	1.151
						7	.052	2.892	.599	.682	1.357	1.192	1.139
						10	.025	3.091	.599	.637	1.351	1.270	1.064
						11	.034	2.808	.599	.631	1.351	1.282	1.054
					114.96	5	.078	2.960	.575	.603	1.349	1.287	1.048
						6	.096	2.957	.575	.610	1.357	1.279	1.061
					*	11	.024	2.817	.575	.649	1.298	1.150	1.128
						12	.048	3.156	.575	.611	1.332	1.254	1.062
					129.16	5	.107	2.964	.552	.551	1.239	1.241	.998
						6	.127	2.949	.552	.552	1.261	1.262	.999
						11	.108	2.852	.552	.516	1.234	1.320	.935
					*	12	.071	3.156	.552	.573	1.197	1.154	1.037
16X16	1.46 SYM	595.	3.04	2205.									
					114.96*	6	.110	3.029	.524	.580	1.359	1.228	1.107
						7	.112	3.010	.524	.573	1.359	1.243	1.093
						10	.091	3.015	.524	.514	1.356	1.383	.981
						11	.095	2.867	.524	.534	1.356	1.330	1.019
16X16	1.46 SYM	599.	2.50	2200.									
					114.96*	6	.125	2.496	.432	.493	1.359	1.192	1.140
						7	.127	2.481	.432	.487	1.359	1.206	1.127
						10	.107	2.552	.432	.443	1.356	1.323	1.025
						11	.111	2.352	.432	.457	1.354	1.281	1.057
16X16	1.46 SYM	591.	2.55	2015.									
					114.96*	6	.131	2.536	.426	.468	1.359	1.237	1.098
						7	.133	2.521	.426	.464	1.358	1.249	1.087
						10	.115	2.589	.426	.422	1.358	1.372	.990
						11	.119	2.388	.426	.440	1.358	1.315	1.032
16X16	1.46 SYM	570.	3.03	2000.									
					114.96*	6	.083	3.003	.527	.622	1.352	1.144	1.182
						7	.085	2.981	.527	.616	1.353	1.157	1.169
						10	.065	3.102	.527	.563	1.344	1.257	1.069
						11	.069	2.865	.527	.579	1.341	1.218	1.100
16X16	1.46 SYM	559.	2.96	2410.									
					114.96*	6	.024	2.931	.657	.742	1.302	1.152	1.130
						7	.028	2.896	.657	.729	1.304	1.175	1.110
						10	-.001	3.157	.657	.690	1.285	1.223	1.050
						11	.004	2.846	.657	.688	1.277	1.219	1.047
					129.16*	1	.049	2.842	.514	.602	1.148	.981	1.170
						2	.027	3.024	.514	.703	1.128	.825	1.367
						7	.065	2.886	.514	.659	1.174	.916	1.281
						8	.088	2.734	.514	.553	1.200	1.116	1.076
16X16	1.46 SYM	546.	3.00	2200.									
					114.96*	6	.037	2.926	.655	.731	1.314	1.176	1.117
						7	.041	2.884	.655	.716	1.317	1.204	1.094
						10	.015	3.148	.655	.678	1.301	1.256	1.035
						11	.019	2.849	.655	.683	1.294	1.240	1.043

SUMMARY OF CE CHF TESTS

CASE		INLET			CONDITIONS AT CHF								
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	533.	2.97	2000.									
					114.96*	6	.046	2.891	.612	.708	1.321	1.143	1.156
						7	.049	2.849	.612	.693	1.323	1.168	1.133
						10	.027	3.085	.612	.650	1.310	1.234	1.061
						11	.030	2.808	.612	.663	1.303	1.203	1.083
16X16	1.46 SYM	539.	2.49	2415.									
					114.96*	6	.007	2.550	.618	.705	1.268	1.113	1.139
						7	.011	2.514	.618	.692	1.271	1.136	1.119
						10	-.020	2.635	.618	.635	1.244	1.212	1.026
						11	-.015	2.397	.618	.643	1.238	1.191	1.040
16X16	1.46 SYM	533.	2.49	1995.									
					114.96*	6	.081	2.434	.583	.576	1.337	1.355	.987
						7	.084	2.410	.583	.567	1.338	1.376	.973
						10	.058	2.549	.583	.529	1.321	1.457	.907
						11	.063	2.360	.583	.549	1.317	1.400	.941
16X16	1.46 SYM	528.	2.48	2000.									
					114.96*	6	.048	2.408	.556	.647	1.305	1.121	1.164
						7	.052	2.370	.556	.634	1.307	1.146	1.141
						10	.028	2.577	.556	.591	1.291	1.215	1.063
						11	.032	2.344	.556	.609	1.284	1.171	1.097
					129.16	5	.059	2.486	.534	.589	1.142	1.035	1.103
						6	.077	2.436	.534	.584	1.167	1.066	1.094
						11	.060	2.395	.534	.558	1.138	1.089	1.045
					*	12	.026	2.743	.534	.612	1.113	.970	1.147
16X16	1.46 SYM	529.	3.00	2415.									
					100.76	6	-.083	3.000	.776	.958	1.270	1.029	1.234
					*	7	-.083	3.095	.776	.981	1.274	1.008	1.264
						10	-.115	3.126	.776	.870	1.248	1.114	1.121
						11	-.102	2.868	.776	.867	1.249	1.119	1.116
					100.76	5	-.103	3.033	.776	.938	1.254	1.038	1.208
					*	6	-.083	3.000	.776	.958	1.270	1.029	1.234
						11	-.102	2.868	.776	.867	1.249	1.119	1.116
						12	-.134	3.081	.776	.894	1.230	1.069	1.151
					72.36	7	-.234	3.145	.934	1.292	1.046	.756	1.384
					*	8	-.211	3.010	.934	1.124	1.048	.871	1.204
						9	-.226	3.017	.934	1.154	1.047	.846	1.236
						10	-.264	3.153	.934	1.120	1.042	.869	1.200
					114.96*	6	-.025	3.119	.745	.874	1.258	1.073	1.173
						7	-.022	3.112	.745	.867	1.261	1.084	1.163
						10	-.053	3.145	.745	.773	1.232	1.188	1.037
						11	-.048	2.859	.745	.774	1.226	1.180	1.039
					129.16	5	-.048	3.048	.716	.842	1.047	.890	1.177
						6	-.025	3.119	.716	.874	1.070	.877	1.221
					*	11	-.048	2.859	.716	.774	1.042	.963	1.082
						12	-.089	3.115	.716	.828	1.021	.882	1.157
					114.96	5	-.011	3.073	.745	.780	1.271	1.215	1.046
						6	.014	3.005	.745	.775	1.294	1.243	1.041
						11	-.009	2.944	.745	.726	1.268	1.300	.975
					*	12	-.059	3.145	.745	.784	1.226	1.166	1.052

Table B.1 (Continued)

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	567.	1.97	2400.									
					114.96*	6	.078	1.958	.459	.508	1.313	1.186	1.107
						7	.081	1.941	.459	.501	1.315	1.205	1.092
						10	.051	2.033	.459	.461	1.289	1.282	1.006
						11	.056	1.869	.459	.475	1.285	1.241	1.035
					114.96	5	.055	1.970	.459	.506	1.290	1.170	1.103
						6	.078	1.958	.459	.508	1.313	1.186	1.107
						11	.056	1.869	.459	.475	1.285	1.241	1.035
						* 12	.021	2.144	.459	.513	1.263	1.129	1.119
16X16	1.46 SYM	567.	2.02	2195.									
					114.96*	6	.107	2.005	.444	.484	1.342	1.232	1.090
						7	.110	1.990	.444	.479	1.343	1.248	1.077
						10	.084	2.067	.444	.440	1.324	1.339	.989
						11	.089	1.910	.444	.457	1.321	1.286	1.027
					129.16*	6	.137	1.999	.427	.432	1.227	1.212	1.012
						7	.143	1.970	.427	.420	1.233	1.252	.985
						10	.121	2.030	.427	.383	1.205	1.343	.897
						11	.118	1.933	.427	.413	1.194	1.233	.968
					114.96*	5	.088	2.008	.444	.483	1.326	1.221	1.086
						6	.107	2.005	.444	.484	1.342	1.232	1.090
						11	.089	1.910	.444	.457	1.321	1.286	1.027
						12	.059	1.147	.444	.401	1.232	1.366	.902
16X16	1.46 SYM	584.	1.51	2395.									
					129.16*	6	.156	1.537	.329	.356	1.217	1.126	1.081
						7	.164	1.521	.329	.344	1.229	1.178	1.043
						10	.141	1.550	.329	.312	1.195	1.261	.948
						11	.136	1.474	.329	.338	1.180	1.149	1.027
					114.96*	6	.121	1.540	.343	.402	1.332	1.135	1.173
						7	.127	1.527	.343	.393	1.337	1.168	1.144
						10	.098	1.570	.343	.361	1.311	1.246	1.052
						11	.099	1.449	.343	.380	1.303	1.177	1.107
					129.16*	7	.164	1.521	.335	.344	1.229	1.198	1.026
						8	.190	1.455	.335	.285	1.258	1.481	.850
						9	.165	1.486	.335	.317	1.227	1.299	.945
						10	.141	1.550	.335	.312	1.195	1.282	.932
					114.96	5	.097	1.536	.343	.405	1.307	1.108	1.180
						6	.121	1.540	.343	.402	1.332	1.135	1.173
						11	.099	1.449	.343	.380	1.303	1.177	1.107
						* 12	.067	1.603	.343	.399	1.279	1.101	1.162
16X16	1.46 SYM	572.	1.54	2200.									
					129.16*	6	.151	1.565	.329	.383	1.213	1.044	1.162
						7	.158	1.549	.329	.371	1.223	1.087	1.125
						10	.137	1.580	.329	.335	1.192	1.172	1.017
						11	.133	1.497	.329	.365	1.178	1.064	1.107
					129.16*	7	.158	1.549	.335	.371	1.223	1.105	1.106
						8	.182	1.460	.335	.311	1.250	1.346	.928
						9	.160	1.510	.335	.343	1.221	1.194	1.022
						10	.137	1.580	.335	.335	1.192	1.192	1.000

SUMMARY OF CE CHF TESTS

CASE		INLET			CONDITIONS AT CHF								
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	561.	1.56	2000.									
					129.16*	6	.151	1.585	.326	.398	1.214	.993	1.222
						7	.158	1.567	.326	.386	1.223	1.033	1.185
						10	.138	1.585	.326	.347	1.195	1.123	1.064
						11	.135	1.517	.326	.381	1.183	1.011	1.169
					129.16	7	.158	1.567	.331	.386	1.223	1.050	1.165
						8	.179	1.496	.331	.327	1.247	1.262	.988
						9	.159	1.527	.331	.358	1.221	1.131	1.080
						* 11	.135	1.517	.331	.381	1.183	1.028	1.150
16X16	1.46 SYM	523.	1.01	2200.									
					129.16	6	.129	1.031	.281	.383	1.117	.818	1.366
						7	.139	1.019	.281	.371	1.129	.854	1.322
						* 10	.112	1.036	.281	.335	1.094	.916	1.194
						11	.107	.985	.281	.368	1.081	.825	1.310
					129.16	7	.139	1.019	.285	.371	1.129	.869	1.300
						8	.139	.977	.285	.344	1.123	.931	1.206
						* 9	.140	.992	.285	.343	1.128	.938	1.202
						10	.112	1.036	.285	.335	1.094	.931	1.175
16X16	1.46 SYM	487.	1.02	2405.									
					129.16	6	.083	1.027	.338	.393	1.059	.909	1.165
						7	.094	1.015	.338	.380	1.069	.949	1.127
						* 10	.059	1.043	.338	.349	1.038	1.003	1.035
						11	.058	.988	.338	.375	1.033	.929	1.111
					129.16	7	.094	1.015	.343	.380	1.069	.965	1.108
						8	.131	.965	.343	.311	1.111	1.225	.906
						9	.096	.985	.343	.350	1.068	1.048	1.019
						* 10	.059	1.043	.343	.349	1.038	1.020	1.018
16X16	1.46 SYM	470.	1.01	2195.									
					129.16	6	.080	1.019	.329	.446	1.055	.780	1.353
						7	.089	1.003	.329	.433	1.063	.809	1.314
						* 10	.059	1.031	.329	.392	1.037	.873	1.188
						11	.058	.978	.329	.423	1.032	.804	1.283
16X16	1.46 SYM	465.	1.01	2005.									
					129.16	6	.104	1.020	.325	.459	1.081	.766	1.412
						7	.113	1.006	.325	.446	1.091	.795	1.373
						* 10	.085	1.029	.325	.401	1.061	.860	1.234
						11	.080	.986	.325	.441	1.052	.775	1.357
16X16	1.46 SYM	519.	1.53	2405.									
					114.96*	7	.036	1.495	.448	.507	1.237	1.094	1.131
						8	.071	1.398	.448	.419	1.268	1.355	.936
						9	.033	1.455	.448	.472	1.231	1.169	1.053
						10	-.001	1.649	.448	.477	1.211	1.137	1.065
					129.16*	6	.075	1.528	.430	.460	1.096	1.025	1.069
						7	.084	1.505	.430	.445	1.107	1.071	1.033
						10	.053	1.565	.430	.407	1.074	1.134	.947
						11	.052	1.482	.430	.435	1.066	1.054	1.011
					129.16	7	.084	1.505	.438	.445	1.107	1.089	1.016
						8	.118	1.419	.438	.367	1.145	1.366	.839
						9	.086	1.466	.438	.409	1.105	1.182	.935
						* 11	.052	1.482	.438	.435	1.066	1.072	.995

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	501.	1.52	2205.									
					129.16	6	.071	1.512	.425	.498	1.090	.929	1.173
						* 7	.080	1.487	.425	.483	1.099	.966	1.137
						10	.052	1.552	.425	.439	1.071	1.037	1.033
						11	.051	1.472	.425	.471	1.064	.959	1.110
					129.16*	7	.080	1.487	.432	.483	1.099	.982	1.118
						8	.112	1.400	.432	.401	1.135	1.223	.928
						9	.081	1.450	.432	.446	1.097	1.061	1.034
						10	.052	1.552	.432	.439	1.071	1.054	1.016
16X16	1.46 SYM	489.	1.53	2005.									
					129.16	6	.062	1.518	.406	.545	1.080	.805	1.341
						7	.069	1.492	.406	.531	1.086	.831	1.307
						* 10	.045	1.545	.406	.475	1.064	.909	1.170
						11	.045	1.480	.406	.513	1.059	.838	1.264
16X16	1.46 SYM	506.	1.98	2415.									
					114.96*	6	-.031	2.075	.566	.684	1.207	.999	1.208
						7	-.024	2.069	.566	.673	1.213	1.022	1.187
						10	-.059	2.087	.566	.603	1.183	1.112	1.064
						11	-.055	1.891	.566	.619	1.176	1.076	1.093
16X16	1.46 SYM	502.	1.96	2215.									
					114.96*	6	.001	2.055	.543	.671	1.237	1.002	1.235
						7	.011	1.995	.543	.646	1.244	1.046	1.190
						10	-.021	2.086	.543	.591	1.217	1.120	1.087
						11	-.018	1.891	.543	.611	1.210	1.075	1.125
					129.16	6	.045	1.938	.522	.581	1.090	.978	1.114
						7	.054	1.895	.522	.561	1.098	1.021	1.075
						10	.027	2.014	.522	.514	1.075	1.092	.984
						* 11	.026	1.905	.522	.549	1.067	1.015	1.051
16X16	1.46 SYM	488.	1.99	2005.									
					129.16	6	.049	1.959	.516	.602	1.096	.939	1.167
						* 7	.057	1.916	.516	.583	1.103	.977	1.129
						10	.033	2.032	.516	.530	1.082	1.054	1.027
						11	.031	1.928	.516	.570	1.074	.973	1.103
16X16	1.46 SYM	461.	1.96	2405.									
					114.96	6	-.083	2.053	.643	.761	1.162	.981	1.184
						* 7	-.075	2.047	.643	.748	1.168	1.004	1.164
						10	-.115	2.062	.643	.671	1.141	1.093	1.044
						11	-.110	1.868	.643	.689	1.136	1.059	1.072
					129.16*	7	-.021	2.019	.628	.661	1.032	.980	1.054
						8	.013	1.882	.628	.551	1.053	1.200	.878
						9	-.020	1.967	.628	.608	1.031	1.064	.969
						10	-.054	2.036	.628	.591	1.013	1.076	.941
16X16	1.46 SYM	460.	1.98	2215.									
					114.96*	6	-.044	2.075	.624	.754	1.195	.990	1.207
						7	-.038	2.069	.624	.741	1.201	1.012	1.187
						10	-.072	2.084	.624	.665	1.172	1.100	1.066
						11	-.069	1.886	.624	.686	1.166	1.061	1.099

Table B.1 (Continued)

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	457.	1.98	2005.									
					129.16	6	.021	1.967	.570	.657	1.065	.924	1.153
					*	7	.032	1.899	.570	.629	1.073	.971	1.105
						10	.006	2.091	.570	.580	1.057	1.039	1.018
						11	.004	1.970	.570	.621	1.049	.962	1.091
					129.16	5	.000	2.067	.570	.662	1.051	.905	1.162
						6	.021	1.967	.570	.657	1.065	.924	1.153
					*	11	.004	1.970	.570	.621	1.049	.962	1.091
						12	-.023	2.091	.570	.638	1.030	.920	1.120
16X16	1.46 SYM	535.	2.83	2405.									
					114.96*	6	-.008	2.964	.704	.810	1.270	1.104	1.150
						7	-.001	2.951	.704	.794	1.277	1.132	1.128
						10	-.032	2.987	.704	.712	1.246	1.232	1.012
						11	-.029	2.716	.704	.720	1.238	1.211	1.023
16X16	1.46 SYM	521.	2.85	2210.									
					114.96*	6	.000	2.998	.696	.826	1.280	1.078	1.187
						7	.007	2.926	.696	.798	1.284	1.118	1.148
						10	-.021	3.020	.696	.727	1.259	1.204	1.045
						11	-.018	2.744	.696	.738	1.251	1.179	1.061
					114.96	5	-.021	2.927	.696	.804	1.255	1.086	1.155
					*	6	.000	2.998	.696	.826	1.280	1.078	1.187
						11	-.018	2.744	.696	.738	1.251	1.179	1.061
						12	-.049	2.971	.696	.773	1.229	1.107	1.111
					129.16	5	.016	2.927	.668	.727	1.108	1.018	1.088
						6	.037	2.817	.668	.715	1.130	1.056	1.070
						11	.020	2.779	.668	.671	1.106	1.101	1.005
					*	12	-.009	3.096	.668	.718	1.086	1.011	1.074
16X16	1.46 SYM	510.	2.87	2000.									
					114.96*	6	.014	2.915	.676	.794	1.291	1.100	1.173
						7	.020	2.831	.676	.766	1.294	1.142	1.133
						10	-.004	3.074	.676	.719	1.278	1.202	1.063
						11	-.003	2.798	.676	.737	1.269	1.165	1.089
					129.16	5	.027	2.924	.650	.709	1.123	1.029	1.092
						6	.046	2.829	.650	.699	1.144	1.064	1.076
						11	.031	2.777	.650	.657	1.121	1.108	1.011
					*	12	.007	3.191	.650	.711	1.109	1.012	1.095
					129.16*	6	.046	2.829	.650	.699	1.144	1.064	1.076
						7	.053	2.771	.650	.675	1.151	1.108	1.038
						10	.032	2.932	.650	.619	1.130	1.186	.953
						11	.031	2.777	.650	.657	1.121	1.108	1.011

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	425.	.99	2405.									
					129.16	6	.040	.987	.391	.437	1.020	.913	1.117
						7	.054	.965	.391	.419	1.023	.960	1.071
						* 10	.013	1.032	.391	.392	1.008	1.006	1.002
						11	.010	.971	.391	.421	1.004	.933	1.076
					129.16	7	.054	.965	.398	.419	1.028	.976	1.053
						8	.095	.901	.398	.342	1.058	1.232	.859
						9	.054	.940	.398	.387	1.026	1.053	.974
						* 10	.013	1.032	.398	.392	1.008	1.023	.985
					114.96	6	-.028	1.054	.407	.522	1.146	.893	1.283
						7	-.018	1.051	.407	.511	1.153	.919	1.255
						10	.016	1.022	.407	.387	1.178	1.239	.951
						* 11	-.060	.947	.407	.487	1.117	.934	1.196
					129.16	5	.004	1.029	.391	.450	1.004	.871	1.152
						6	.040	.987	.391	.437	1.020	.913	1.117
						* 11	.010	.971	.391	.421	1.004	.933	1.076
						12	-.040	1.049	.391	.443	.991	.874	1.134
16X16	1.46 SYM	422.	1.01	2190.									
					129.16	6	.036	1.003	.371	.500	1.019	.757	1.347
						7	.048	.981	.371	.484	1.025	.787	1.303
						* 10	.013	1.054	.371	.442	1.009	.848	1.190
						11	.011	.992	.371	.477	1.005	.783	1.284
16X16	1.46 SYM	415.	1.01	2415.									
					129.16	6	.015	1.030	.403	.468	1.009	.868	1.162
						7	.028	1.002	.403	.449	1.014	.909	1.115
						* 10	-.012	1.065	.403	.416	.999	.966	1.034
						11	-.014	.994	.403	.445	.996	.900	1.106
					129.16	7	.028	1.002	.409	.449	1.014	.925	1.097
						8	.072	.928	.409	.366	1.039	1.161	.895
						* 9	.029	.973	.409	.414	1.013	1.001	1.012
						10	-.012	1.065	.409	.416	.999	.982	1.017
					114.96	6	-.053	1.072	.419	.550	1.130	.861	1.313
						7	-.044	1.070	.419	.539	1.136	.883	1.287
						* 10	-.091	1.064	.419	.490	1.107	.948	1.169
						11	-.086	.962	.419	.511	1.104	.904	1.220
					129.16	5	-.021	1.044	.403	.476	.995	.843	1.181
						6	.015	1.030	.403	.468	1.009	.868	1.162
						* 11	-.014	.994	.403	.445	.996	.900	1.106
						12	-.065	1.049	.403	.464	.986	.855	1.154
16X16	1.46 SYM	405.	1.02	2015.									
					129.16	6	.059	1.010	.385	.516	1.036	.773	1.340
						7	.070	.991	.385	.501	1.043	.803	1.300
						* 10	.037	1.031	.385	.453	1.021	.868	1.176
						11	.036	.989	.385	.491	1.018	.798	1.275
16X16	1.46 SYM	395.	1.02	1755.									
					129.16	6	.104	1.014	.390	.515	1.081	.818	1.322
						7	.114	.999	.390	.501	1.091	.849	1.286
						* 10	.084	1.030	.390	.451	1.060	.917	1.156
						11	.079	.993	.390	.497	1.052	.825	1.275

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	387.	1.02	1755.									
					129.16	6	.104	1.012	.400	.515	1.081	.840	1.287
						7	.114	.995	.400	.501	1.091	.872	1.251
						* 10	.083	1.029	.400	.451	1.059	.939	1.128
						11	.079	.991	.400	.498	1.051	.846	1.243
					129.16	7	.114	.995	.407	.501	1.091	.887	1.230
						8	.150	.937	.407	.423	1.134	1.092	1.038
						9	.116	.967	.407	.466	1.090	.953	1.145
						* 10	.083	1.029	.407	.451	1.059	.955	1.109
16X16	1.46 SYM	432.	2.00	1755.									
					129.16	6	.022	1.969	.571	.684	1.067	.890	1.198
						7	.031	1.891	.571	.660	1.071	.927	1.156
						* 10	.008	2.129	.571	.605	1.061	1.000	1.060
						11	.006	1.999	.571	.652	1.052	.921	1.142
16X16	1.46 SYM	471.	1.97	1755.									
					129.16	6	.051	1.932	.493	.618	1.097	.875	1.253
						7	.058	1.890	.493	.600	1.103	.907	1.216
						* 10	.037	2.004	.493	.540	1.085	.990	1.096
						11	.037	1.905	.493	.583	1.078	.912	1.183
16X16	1.46 SYM	497.	2.00	1755.									
					129.16	6	.089	1.986	.464	.554	1.140	.954	1.194
						* 7	.087	1.952	.464	.537	1.148	.992	1.158
						10	.067	2.032	.464	.484	1.125	1.079	1.043
						11	.064	1.949	.464	.530	1.115	.976	1.142
16X16	1.46 SYM	504.	2.40	1745.									
					129.16*	6	.072	2.376	.517	.588	1.155	1.016	1.136
						7	.078	2.337	.517	.570	1.161	1.054	1.102
						10	.060	2.438	.517	.516	1.141	1.144	.997
						11	.057	2.333	.517	.562	1.131	1.042	1.086
16X16	1.46 SYM	511.	2.88	2205.									
					114.96*	6	-.012	3.018	.726	.859	1.267	1.070	1.184
						7	-.007	3.008	.726	.844	1.273	1.095	1.163
						10	-.035	3.040	.726	.757	1.246	1.195	1.043
						11	-.032	2.761	.726	.768	1.238	1.170	1.058
16X16	1.46 SYM	501.	3.01	2010.									
					114.96*	6	.000	3.166	.732	.871	1.286	1.081	1.190
						7	.006	3.134	.732	.851	1.290	1.110	1.162
						10	-.019	3.186	.732	.769	1.267	1.205	1.051
						11	-.017	2.894	.732	.783	1.258	1.176	1.070
					129.16	5	.014	3.117	.703	.770	1.115	1.018	1.095
						6	.034	2.956	.703	.748	1.133	1.064	1.065
						11	.018	2.944	.703	.708	1.112	1.105	1.006
						* 12	-.008	3.267	.703	.758	1.094	1.015	1.078

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	482.	2.96	1755.									
					114.96*	6	.008	3.101	.699	.842	1.292	1.073	1.204
						7	.013	2.991	.699	.811	1.293	1.115	1.160
						10	-.009	3.159	.699	.752	1.276	1.187	1.075
						11	-.007	2.869	.699	.772	1.267	1.148	1.104
					129.16*	6	.037	2.889	.672	.723	1.135	1.054	1.077
						7	.044	2.812	.672	.695	1.140	1.101	1.035
						10	.025	3.035	.672	.643	1.125	1.175	.958
						11	.024	2.879	.672	.687	1.116	1.091	1.023
					129.16	5	.020	3.039	.672	.743	1.118	1.011	1.106
						6	.037	2.889	.672	.723	1.135	1.054	1.077
						11	.024	2.879	.672	.687	1.116	1.091	1.023
					*	12	.001	3.305	.672	.742	1.107	1.002	1.104
					114.96*	5	-.009	3.057	.699	.838	1.272	1.068	1.192
						6	.008	3.101	.699	.842	1.292	1.073	1.204
						11	-.007	2.869	.699	.772	1.267	1.148	1.104
						12	-.031	3.093	.699	.805	1.251	1.087	1.151
16X16	1.46 SYM	528.	2.02	1755.									
					114.96*	7	.096	1.995	.447	.519	1.332	1.147	1.162
						8	.118	1.869	.447	.439	1.345	1.370	.981
						9	.095	1.941	.447	.486	1.329	1.222	1.087
						10	.074	2.085	.447	.474	1.315	1.241	1.060
					129.16*	7	.122	2.004	.429	.459	1.205	1.127	1.069
						8	.142	1.902	.429	.389	1.227	1.355	.905
						9	.123	1.955	.429	.427	1.203	1.210	.994
						10	.104	2.063	.429	.414	1.182	1.225	.964
					129.16	6	.116	2.031	.422	.474	1.197	1.066	1.122
						7	.122	2.004	.422	.459	1.205	1.109	1.087
					*	10	.074	2.085	.422	.474	1.137	1.014	1.122
						11	.100	1.967	.422	.458	1.168	1.078	1.083
16X16	1.46 SYM	527.	3.06	1755.									
					114.96*	6	.054	3.007	.595	.682	1.332	1.164	1.145
						7	.058	2.959	.595	.664	1.335	1.197	1.115
						10	.039	3.153	.595	.617	1.323	1.277	1.037
						11	.041	2.913	.595	.644	1.317	1.219	1.081
					114.96	5	.038	3.031	.595	.691	1.321	1.138	1.160
						6	.054	3.007	.595	.682	1.332	1.164	1.145
						11	.041	2.913	.595	.644	1.317	1.219	1.081
					*	12	.021	3.363	.595	.691	1.313	1.132	1.160
16X16	1.46 SYM	559.	1.96	1755.									
					114.96*	7	.141	1.974	.392	.418	1.358	1.274	1.066
						8	.160	1.865	.392	.353	1.359	1.510	.900
						9	.140	1.917	.392	.392	1.358	1.355	1.002
						10	.121	2.032	.392	.383	1.352	1.384	.976
					114.96*	6	.136	1.995	.385	.428	1.357	1.222	1.110
						7	.141	1.974	.385	.418	1.358	1.253	1.084
						10	.121	2.032	.385	.383	1.352	1.361	.993
						11	.120	1.881	.385	.418	1.347	1.243	1.084

Table B.1 (Continued)

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	551.	2.97	1760.									
					114.96*	6	.087	2.986	.528	.575	1.354	1.243	1.090
						7	.091	2.952	.528	.560	1.355	1.277	1.062
						10	.073	3.070	.528	.518	1.348	1.375	.981
						11	.073	2.855	.528	.550	1.343	1.288	1.043
					114.96*	7	.091	2.952	.537	.560	1.355	1.298	1.044
						8	.109	2.775	.537	.466	1.359	1.563	.869
						9	.090	2.875	.537	.523	1.354	1.390	.974
						10	.073	3.070	.537	.518	1.348	1.398	.965
					114.96*	5	.072	3.014	.528	.583	1.346	1.218	1.105
						6	.087	2.986	.528	.575	1.354	1.243	1.090
						11	.073	2.855	.528	.550	1.343	1.288	1.043
						12	.073	3.190	.528	.524	1.351	1.359	.994
16X16	1.46 SYM	576.	1.98	1755.									
					114.96*	6	.155	2.026	.356	.383	1.358	1.264	1.074
						7	.160	2.007	.356	.373	1.357	1.296	1.047
						10	.141	2.059	.356	.342	1.359	1.415	.960
						11	.141	1.929	.356	.375	1.358	1.291	1.052
					114.96*	7	.160	2.007	.362	.373	1.357	1.317	1.030
						8	.177	1.901	.362	.316	1.349	1.545	.873
						9	.159	1.948	.362	.352	1.358	1.399	.971
						10	.141	2.059	.362	.342	1.359	1.439	.944
16X16	1.46 SYM	578.	2.63	1745.									
					114.96*	7	.131	2.661	.418	.431	1.358	1.315	1.033
						8	.146	2.523	.418	.364	1.353	1.552	.872
						9	.130	2.586	.418	.405	1.358	1.401	.969
						10	.115	2.732	.418	.395	1.359	1.436	.947
16X16	1.46 SYM	588.	3.00	1750.									
					114.96*	7	.140	3.045	.441	.404	1.343	1.464	.917
						8	.154	2.892	.441	.338	1.332	1.736	.767
						9	.139	2.959	.441	.380	1.346	1.563	.861
						10	.125	3.119	.441	.374	1.353	1.594	.849
					100.76*	7	.111	3.002	.459	.496	1.326	1.227	1.081
						8	.125	3.855	.459	.433	1.247	1.324	.942
						9	.109	2.942	.459	.467	1.331	1.308	1.017
						10	.095	3.102	.459	.457	1.340	1.346	.996
					100.76	5	.100	3.076	.452	.501	1.337	1.205	1.109
					*	6	.109	3.020	.452	.504	1.328	1.189	1.117
						11	.098	2.893	.452	.483	1.344	1.258	1.068
						12	.081	3.159	.452	.500	1.350	1.220	1.106
					114.96*	6	.136	3.070	.434	.415	1.346	1.405	.958
						7	.140	3.045	.434	.404	1.343	1.440	.933
						10	.125	3.119	.434	.374	1.353	1.567	.863
						11	.125	2.879	.434	.405	1.357	1.454	.933
16X16	1.46 SYM	482.	1.50	1750.									
					129.16	6	.103	1.510	.399	.504	1.133	.898	1.262
						7	.111	1.474	.399	.489	1.141	.931	1.226
					*	10	.088	1.525	.399	.440	1.114	1.011	1.102
						11	.083	1.467	.399	.487	1.102	.903	1.220

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z		CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	1.46 SYM	333.	1.04	1755.										
					114.96		7	.014	1.070	.479	.651	1.180	.868	1.360
						*	8	.053	.900	.479	.553	1.199	1.038	1.155
							9	.012	1.042	.479	.610	1.176	.923	1.274
							10	-.026	1.113	.479	.592	1.151	.931	1.237
					129.16		6	.062	1.012	.452	.578	1.038	.812	1.278
							7	.074	.985	.452	.561	1.046	.844	1.239
						*	10	.039	1.056	.452	.507	1.024	.914	1.120
							11	.038	1.008	.452	.552	1.020	.836	1.220
					129.16		7	.074	.985	.460	.561	1.046	.859	1.218
						*	8	.111	.920	.460	.476	1.077	1.041	1.035
							9	.076	.961	.460	.521	1.046	.924	1.132
							10	.039	1.056	.460	.507	1.024	.930	1.102

Table B.1 (Continued)

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	595.	2.01	2405.									
					114.96	5	.108	2.000	.438	.437	1.314	1.318	.997
					*	6	.128	2.007	.438	.439	1.311	1.308	1.002
						11	.108	1.898	.438	.410	1.314	1.405	.936
						12	.077	2.114	.438	.437	1.312	1.315	.998
					114.96*	6	.128	2.007	.437	.439	1.311	1.305	1.004
						7	.130	1.994	.437	.434	1.310	1.320	.992
						10	.102	2.061	.437	.400	1.314	1.436	.915
						11	.108	1.898	.437	.410	1.314	1.401	.938
16X16	SPIKE	587.	2.01	2205.									
					114.96	5	.119	1.992	.425	.432	1.313	1.293	1.015
					*	6	.136	2.000	.425	.433	1.307	1.283	1.019
						11	.119	1.891	.425	.408	1.314	1.367	.961
						12	.092	2.016	.425	.423	1.313	1.320	.995
					129.16*	6	.153	1.989	.381	.404	1.986	1.873	1.060
						7	.169	1.973	.381	.375	2.021	2.052	.985
						10	.149	2.017	.381	.342	1.979	2.206	.897
						11	.148	1.913	.381	.367	1.963	2.035	.965
16X16	SPIKE	580.	2.02	2005.									
					114.96	5	.134	1.990	.417	.409	1.308	1.336	.979
					*	6	.150	2.000	.417	.407	1.299	1.330	.976
						11	.135	1.888	.417	.391	1.310	1.400	.936
						12	.110	2.108	.417	.407	1.313	1.345	.976
					114.96*	7	.152	1.985	.416	.403	1.297	1.341	.968
						8	.172	1.883	.416	.339	1.281	1.575	.814
						9	.149	1.937	.416	.380	1.301	1.426	.913
						10	.130	2.047	.416	.372	1.309	1.466	.893
					114.96*	6	.150	2.000	.416	.407	1.299	1.327	.979
						7	.152	1.985	.416	.403	1.297	1.341	.968
						10	.130	2.047	.416	.372	1.309	1.466	.893
						11	.135	1.888	.416	.391	1.310	1.397	.938
					129.16*	7	.179	1.980	.374	.350	2.041	2.181	.936
						8	.197	1.897	.374	.295	2.062	2.617	.788
						9	.178	1.937	.374	.328	2.036	2.322	.877
						10	.161	2.023	.374	.320	2.009	2.350	.855
					129.16	6	.175	1.997	.374	.358	2.035	2.126	.957
						7	.179	1.980	.374	.350	2.041	2.181	.936
						10	.161	2.023	.374	.320	2.009	2.350	.855
					*	11	.158	1.926	.374	.352	1.990	2.114	.941
16X16	SPIKE	573.	2.03	1750.									
					114.96*	6	.158	2.012	.386	.377	1.291	1.324	.975
						7	.160	1.999	.386	.373	1.289	1.337	.965
						10	.177	1.897	.386	.282	1.274	1.749	.729
						11	.157	1.949	.386	.342	1.294	1.461	.886
16X16	SPIKE	561.	2.00	1760.									
					114.96*	6	.141	1.967	.405	.416	1.305	1.269	1.029
						7	.143	1.951	.405	.412	1.305	1.280	1.019
						10	.123	2.015	.405	.378	1.312	1.404	.934
						11	.128	1.861	.405	.404	1.313	1.316	.998
16X16	SPIKE	568.	2.00	2405.									
					100.76*	7	.010	2.015	.461	.616	1.311	.982	1.335
						8	.027	1.843	.461	.527	1.317	1.153	1.143
						9	-.002	1.995	.461	.588	1.300	1.020	1.275
						10	-.020	2.104	.461	.558	1.289	1.066	1.210

SUMMARY OF CE CHF TESTS

CASE		INLET				CONDITIONS AT CHF							
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	559.	1.99	2200.									
					114.96	5	.070	1.983	.469	.510	1.309	1.204	1.087
						6	.089	1.969	.469	.511	1.313	1.205	1.090
						11	.070	1.886	.469	.482	1.308	1.274	1.027
						* 12	.041	2.130	.469	.509	1.303	1.201	1.085
16X16	SPIKE	551.	2.00	2095.									
					114.96*	5	.090	1.980	.465	.489	1.313	1.249	1.051
						6	.108	1.971	.465	.489	1.314	1.251	1.051
						11	.090	1.887	.465	.466	1.312	1.311	1.001
						12	.064	2.121	.465	.487	1.309	1.252	1.046
					129.16*	6	.136	1.965	.417	.433	1.939	1.866	1.039
						7	.141	1.948	.417	.424	1.949	1.917	1.017
						10	.120	2.002	.417	.386	1.897	2.051	.925
						11	.119	1.908	.417	.418	1.879	1.875	1.002
					129.16*	7	.141	1.948	.417	.424	1.949	1.917	1.017
						8	.183	1.857	.417	.320	2.037	2.658	.767
						9	.140	1.905	.417	.396	1.941	2.046	.949
						10	.120	2.002	.417	.386	1.897	2.051	.925
16X16	SPIKE	528.	2.03	2395.									
					114.96	5	-.016	2.084	.562	.623	1.285	1.158	1.109
						* 6	.008	2.079	.562	.630	1.292	1.152	1.121
						11	-.015	1.956	.562	.581	1.283	1.241	1.034
						12	-.057	2.127	.562	.611	1.275	1.171	1.088
16X16	SPIKE	523.	2.02	2200.									
					114.96	5	.018	2.042	.546	.601	1.294	1.177	1.100
						6	.040	1.961	.546	.595	1.300	1.194	1.089
						11	.019	1.924	.546	.564	1.293	1.252	1.033
						* 12	-.016	2.206	.546	.603	1.287	1.165	1.105
16X16	SPIKE	521.	2.01	2000.									
					129.16	6	.104	1.972	.471	.497	1.843	1.746	1.055
						7	.109	1.949	.471	.485	1.855	1.798	1.031
						10	.086	2.018	.471	.442	1.794	1.909	.940
						* 11	.084	1.932	.471	.479	1.774	1.744	1.017
					114.96	5	.051	1.996	.525	.561	1.304	1.222	1.067
						6	.072	1.957	.525	.558	1.309	1.232	1.063
						11	.053	1.901	.525	.531	1.303	1.288	1.012
						* 12	.023	2.225	.525	.566	1.299	1.206	1.077
16X16	SPIKE	521.	2.01	1760.									
					114.96*	5	.080	1.983	.486	.518	1.311	1.232	1.065
						6	.097	1.959	.486	.515	1.314	1.239	1.060
						11	.080	1.895	.486	.496	1.310	1.285	1.020
						12	.055	2.146	.486	.513	1.307	1.240	1.054
					129.16	6	.124	1.962	.436	.455	1.903	1.822	1.044
						7	.127	1.939	.436	.450	1.907	1.848	1.032
						10	.109	2.001	.436	.405	1.863	2.004	.929
						* 11	.108	1.914	.436	.442	1.845	1.817	1.016
					129.16*	7	.127	1.939	.436	.450	1.907	1.848	1.032
						8	.149	1.841	.436	.377	1.956	2.262	.865
						9	.128	1.896	.436	.417	1.905	1.991	.957
						10	.109	2.001	.436	.405	1.863	2.004	.929
16X16	SPIKE	506.	1.99	2425.									
					100.76	7	-.097	2.062	.581	.777	1.220	.912	1.337
						8	-.066	1.977	.581	.667	1.242	1.082	1.148
						9	-.103	2.001	.581	.722	1.213	.977	1.241
						* 10	-.134	2.077	.581	.691	1.192	1.003	1.188

Table B.1 (Continued)

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	507.	2.00	2215.									
					114.96*	5	.002	2.077	.582	.629	1.290	1.195	1.030
						6	.025	1.968	.582	.619	1.295	1.219	1.063
						11	.002	1.950	.582	.589	1.283	1.273	1.012
						12	-.036	2.122	.582	.629	1.280	1.203	1.064
16X16	SPIKE	606.	2.48	2400.									
					114.96	5	.107	2.467	.480	.490	1.311	1.284	1.021
					*	6	.125	2.479	.480	.497	1.302	1.258	1.035
						11	.107	2.341	.480	.458	1.312	1.374	.955
						12	.080	2.598	.480	.488	1.314	1.292	1.017
					114.96*	6	.125	2.479	.479	.497	1.302	1.255	1.038
						7	.127	2.464	.479	.491	1.301	1.268	1.026
						10	.102	2.542	.479	.449	1.311	1.397	.939
						11	.107	2.341	.479	.458	1.312	1.372	.956
16X16	SPIKE	595.	2.54	2200.									
					114.96	5	.106	2.582	.486	.504	1.310	1.263	1.037
					*	6	.124	2.580	.486	.502	1.300	1.258	1.033
						11	.108	2.437	.486	.470	1.311	1.356	.966
						12	.083	2.693	.486	.498	1.314	1.284	1.023
					114.96*	6	.124	2.580	.485	.502	1.300	1.255	1.036
						7	.129	2.558	.485	.491	1.297	1.280	1.013
						10	.106	2.640	.485	.451	1.309	1.408	.930
						11	.108	2.437	.485	.470	1.311	1.353	.969
16X16	SPIKE	587.	2.49	2000.									
					114.96*	5	.119	2.533	.467	.461	1.304	1.320	.988
						6	.136	2.534	.467	.455	1.290	1.324	.974
						11	.121	2.389	.467	.434	1.306	1.406	.929
						12	.098	2.640	.467	.457	1.311	1.339	.979
					114.96*	6	.141	2.534	.466	.445	1.286	1.346	.955
						7	.141	2.511	.466	.443	1.287	1.351	.952
						10	.121	2.587	.466	.409	1.302	1.480	.880
						11	.121	2.389	.466	.434	1.306	1.402	.932
					114.96*	7	.141	2.511	.466	.443	1.287	1.351	.952
						8	.160	2.377	.466	.369	1.267	1.600	.792
						9	.140	2.444	.466	.413	1.290	1.453	.888
						10	.121	2.587	.466	.409	1.302	1.480	.880
16X16	SPIKE	579.	2.53	1750.									
					114.96*	6	.137	2.579	.428	.415	1.288	1.328	.970
						7	.141	2.557	.428	.404	1.284	1.359	.945
						10	.124	2.630	.428	.374	1.298	1.486	.873
						11	.125	2.427	.428	.405	1.303	1.378	.946
					114.96*	7	.141	2.557	.428	.404	1.284	1.359	.945
						8	.157	2.422	.428	.340	1.269	1.600	.794
						9	.140	2.487	.428	.381	1.288	1.448	.890
						10	.124	2.630	.428	.374	1.298	1.486	.873
					114.96*	5	.123	2.576	.429	.424	1.301	1.315	.989
						6	.137	2.579	.429	.415	1.288	1.331	.967
						11	.125	2.427	.429	.405	1.303	1.381	.943
						12	.106	2.679	.429	.420	1.308	1.338	.978
16X16	SPIKE	536.	2.52	2415.									
					114.96*	6	-.006	2.641	.659	.742	1.296	1.150	1.127
						7	.001	2.612	.659	.725	1.298	1.179	1.101
						10	-.031	2.664	.659	.655	1.289	1.297	.994
						11	-.027	2.419	.659	.664	1.287	1.276	1.008

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	529.	2.52	2200.									
					114.96*	5	.007	2.612	.647	.697	1.299	1.206	1.077
						6	.029	2.482	.647	.682	1.304	1.239	1.053
						11	.010	2.438	.647	.643	1.298	1.307	.993
						12	-.021	2.704	.647	.680	1.292	1.230	1.050
					114.96*	6	.029	2.482	.646	.682	1.304	1.235	1.056
						7	.036	2.422	.646	.660	1.306	1.278	1.021
						10	.007	2.694	.646	.629	1.300	1.336	.973
						11	.010	2.438	.646	.643	1.298	1.304	.995
16X16	SPIKE	530.	2.52	2000.									
					114.96	5	.030	2.553	.592	.659	1.305	1.172	1.114
						6	.049	2.460	.592	.650	1.309	1.192	1.099
						11	.033	2.401	.592	.613	1.304	1.260	1.036
					*	12	.008	2.831	.592	.661	1.302	1.166	1.117
16X16	SPIKE	506.	2.48	1750.									
					114.96	5	.043	2.488	.606	.627	1.308	1.265	1.034
						6	.062	2.409	.606	.615	1.312	1.292	1.015
						11	.046	2.353	.606	.588	1.307	1.347	.971
					*	12	.023	2.759	.606	.626	1.306	1.264	1.033
					114.96*	7	.068	2.363	.604	.598	1.312	1.326	.989
						8	.092	2.171	.604	.496	1.314	1.600	.821
						9	.066	2.314	.604	.561	1.311	1.412	.929
						10	.043	2.552	.604	.559	1.309	1.414	.926
					114.96*	6	.062	2.409	.604	.615	1.312	1.288	1.018
						7	.068	2.363	.604	.598	1.312	1.326	.989
						10	.043	2.552	.604	.559	1.309	1.414	.926
						11	.046	2.353	.604	.588	1.307	1.343	.973
					129.16	6	.089	2.465	.543	.546	1.866	1.856	1.005
						7	.096	2.422	.543	.526	1.881	1.940	.970
						10	.076	2.520	.543	.482	1.834	2.064	.889
					*	11	.072	2.421	.543	.530	1.810	1.854	.976
16X16	SPIKE	622.	3.10	2400.									
					114.96	5	.118	3.151	.525	.556	1.288	1.216	1.059
					*	6	.136	3.165	.525	.562	1.263	1.181	1.069
						11	.120	2.973	.525	.510	1.291	1.330	.971
						12	.095	3.265	.525	.547	1.303	1.253	1.041
					114.96*	6	.136	3.165	.524	.562	1.263	1.178	1.072
						7	.141	3.143	.524	.549	1.256	1.198	1.048
						10	.119	3.227	.524	.501	1.284	1.342	.957
						11	.120	2.973	.524	.510	1.291	1.326	.974

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	621.	3.01	2200.									
					114.96	5	.147	3.062	.482	.464	1.249	1.299	.961
					*	6	.162	3.082	.482	.462	1.211	1.266	.957
						11	.149	2.887	.482	.429	1.256	1.412	.889
						12	.127	3.164	.482	.459	1.276	1.342	.951
					114.96*	6	.162	3.082	.481	.462	1.211	1.262	.960
						7	.166	3.062	.481	.451	1.202	1.283	.937
						10	.148	3.136	.481	.415	1.243	1.441	.862
						11	.149	2.887	.481	.429	1.256	1.408	.892
					114.96*	7	.166	3.062	.481	.451	1.202	1.283	.937
						8	.184	2.914	.481	.374	1.161	1.494	.777
						9	.165	2.979	.481	.417	1.212	1.398	.867
						10	.148	3.136	.481	.415	1.243	1.441	.862
					100.76*	7	.132	3.032	.469	.529	1.289	1.142	1.129
						8	.148	2.889	.469	.446	1.260	1.324	.951
						9	.130	2.965	.469	.492	1.298	1.237	1.049
						10	.112	3.120	.469	.484	1.319	1.279	1.032
16X16	SPIKE	604.	3.00	2000.									
					114.96	5	.128	3.052	.473	.470	1.279	1.289	.992
					*	6	.143	3.067	.473	.465	1.256	1.279	.982
						11	.130	2.878	.473	.439	1.284	1.385	.927
						12	.110	3.161	.473	.465	1.295	1.318	.982
					114.96*	6	.143	3.067	.472	.465	1.256	1.276	.985
						7	.146	3.044	.472	.454	1.251	1.302	.961
						10	.129	3.123	.472	.418	1.275	1.440	.885
						11	.130	2.878	.472	.439	1.284	1.381	.930
16X16	SPIKE	594.	3.04	1750.									
					100.76	5	.110	3.078	.438	.468	1.324	1.240	1.068
					*	6	.119	3.077	.438	.472	1.310	1.217	1.077
						11	.111	2.934	.438	.445	1.329	1.309	1.015
						12	.095	3.193	.438	.461	1.337	1.271	1.052
					114.96*	6	.148	3.111	.449	.377	1.244	1.481	.840
						7	.151	3.088	.449	.366	1.238	1.517	.816
						10	.137	3.166	.449	.343	1.262	1.650	.764
						11	.137	2.916	.449	.372	1.273	1.536	.829
					100.76*	7	.126	3.056	.437	.448	1.298	1.267	1.024
						8	.136	2.908	.437	.390	1.289	1.446	.891
						9	.123	2.990	.437	.428	1.308	1.337	.979
						10	.133	3.161	.437	.352	1.276	1.584	.806
					114.96*	5	.136	3.094	.450	.390	1.267	1.462	.867
						6	.148	3.111	.450	.377	1.244	1.485	.838
						11	.137	2.916	.450	.372	1.273	1.540	.827
						12	.120	3.203	.450	.390	1.283	1.479	.868
16X16	SPIKE	596.	3.01	2400.									
					114.96	5	.066	3.051	.592	.638	1.314	1.219	1.078
					*	6	.087	3.031	.592	.640	1.311	1.211	1.082
						11	.069	2.883	.592	.586	1.314	1.326	.991
						12	.042	3.210	.592	.630	1.313	1.232	1.066
					114.96*	6	.087	3.031	.590	.640	1.311	1.208	1.085
						7	.092	3.003	.590	.625	1.309	1.235	1.060
						10	.066	3.128	.590	.576	1.314	1.346	.976
						11	.069	2.883	.590	.586	1.314	1.323	.993

SUMMARY OF CE CHF TESTS

CASE ARRAY	CASE APD	INLET TEMP	INLET G	INLET PRESS	Z	CH	CONDITIONS AT CHF X	CONDITIONS AT CHF G	CONDITIONS AT CHF HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	590.	3.01	2200.									
					114.96	5	.083	3.054	.564	.602	1.311	1.230	1.066
					*	6	.101	3.043	.564	.601	1.304	1.224	1.066
						11	.085	2.889	.564	.557	1.312	1.329	.988
						12	.061	3.205	.564	.596	1.314	1.245	1.056
					114.96*	6	.101	3.043	.563	.601	1.304	1.221	1.068
						7	.106	3.016	.563	.587	1.302	1.248	1.043
						10	.083	3.124	.563	.540	1.311	1.366	.960
						11	.085	2.889	.563	.557	1.312	1.325	.990
16X16	SPIKE	568.	2.98	2000.									
					114.96*	5	.071	3.021	.572	.611	1.314	1.229	1.068
						6	.088	2.992	.572	.606	1.311	1.236	1.060
						11	.073	2.860	.572	.571	1.314	1.316	.998
						12	.051	3.195	.572	.608	1.314	1.237	1.062
					114.96*	6	.088	2.992	.571	.606	1.311	1.233	1.063
						7	.093	2.961	.571	.592	1.309	1.262	1.038
						10	.072	3.089	.571	.548	1.313	1.368	.960
						11	.073	2.860	.571	.571	1.314	1.313	1.001
16X16	SPIKE	549.	2.99	1750.									
					114.96*	5	.072	3.030	.563	.583	1.314	1.268	1.036
						6	.087	2.995	.563	.573	1.311	1.287	1.018
						11	.073	2.873	.563	.550	1.314	1.344	.977
						12	.053	3.216	.563	.583	1.314	1.270	1.035
16X16	SPIKE	564.	2.98	2400.									
					114.96*	6	.039	2.947	.690	.719	1.311	1.258	1.042
						7	.046	2.890	.690	.696	1.312	1.301	1.009
						10	.015	3.137	.690	.661	1.307	1.364	.959
						11	.018	2.858	.690	.667	1.306	1.350	.967
					114.96*	5	.015	3.047	.692	.730	1.307	1.238	1.056
						6	.039	2.947	.692	.719	1.311	1.261	1.039
						11	.018	2.858	.692	.667	1.306	1.354	.964
						12	-.012	3.239	.692	.726	1.301	1.238	1.050
16X16	SPIKE	542.	3.01	2190.									
					114.96*	6	.029	2.970	.698	.758	1.309	1.206	1.086
						7	.035	2.902	.698	.732	1.310	1.248	1.050
						10	.009	3.204	.698	.700	1.306	1.302	1.003
						11	.011	2.906	.698	.709	1.304	1.283	1.016
					114.96*	5	.008	3.108	.699	.775	1.305	1.177	1.109
						6	.029	2.970	.699	.758	1.309	1.209	1.083
						11	.011	2.906	.699	.709	1.304	1.287	1.013
						12	-.016	2.906	.699	.704	1.296	1.287	1.007
16X16	SPIKE	530.	3.01	2000.									
					114.96	5	.019	3.076	.685	.751	1.308	1.193	1.096
						6	.038	2.934	.685	.733	1.311	1.225	1.070
						11	.022	2.885	.685	.693	1.307	1.293	1.011
					*	12	-.003	3.333	.685	.754	1.304	1.185	1.101
					114.96*	6	.038	2.934	.683	.733	1.311	1.222	1.073
						7	.044	2.861	.683	.708	1.312	1.267	1.035
						10	.020	3.166	.683	.677	1.309	1.322	.990
						11	.022	2.885	.683	.693	1.307	1.289	1.013
16X16	SPIKE	518.	3.03	1750.									
					114.96	5	.032	3.056	.651	.706	1.311	1.209	1.084
						6	.049	2.944	.651	.692	1.313	1.235	1.063
						11	.035	2.881	.651	.657	1.310	1.299	1.008
					*	12	.014	3.394	.651	.714	1.309	1.194	1.097

SUMMARY OF CE CHF TESTS

CASE		INLET			CONDITIONS AT CHF								
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	534.	2.98	2400.									
					114.96*	6	-.007	3.119	.779	.840	1.301	1.208	1.077
						7	.000	3.095	.779	.821	1.303	1.236	1.054
						10	-.032	3.146	.779	.742	1.294	1.359	.952
						11	-.028	2.862	.779	.745	1.292	1.351	.956
					114.96	5	-.032	3.052	.781	.817	1.293	1.236	1.046
					*	6	-.007	3.119	.781	.840	1.301	1.211	1.075
						11	-.028	2.862	.781	.745	1.292	1.354	.954
						12	-.064	3.101	.781	.787	1.284	1.275	1.007
16X16	SPIKE	514.	2.99	2200.									
					114.96*	6	-.007	3.134	.779	.870	1.301	1.165	1.116
						7	-.001	3.123	.779	.854	1.303	1.190	1.095
						10	-.030	3.159	.779	.769	1.295	1.312	.987
						11	-.026	2.870	.779	.777	1.292	1.297	.997
16X16	SPIKE	500.	3.02	2000.									
					114.96*	6	.004	3.181	.774	.865	1.305	1.168	1.117
						7	.009	3.097	.774	.835	1.305	1.210	1.079
						10	-.017	3.205	.774	.767	1.299	1.311	.991
						11	-.013	2.912	.774	.779	1.297	1.289	1.006
					114.96	5	-.017	3.104	.776	.847	1.298	1.189	1.091
					*	6	.004	3.181	.776	.865	1.305	1.171	1.114
						11	-.013	2.912	.776	.779	1.297	1.292	1.003
						12	-.042	3.148	.776	.818	1.291	1.225	1.054
16X16	SPIKE	485.	2.95	1750.									
					129.16*	6	.051	2.884	.664	.680	1.800	1.758	1.024
						7	.057	2.819	.664	.656	1.812	1.835	.987
						10	.038	2.998	.664	.606	1.772	1.940	.913
						11	.037	2.856	.664	.648	1.754	1.796	.977
					114.96*	6	.022	2.900	.739	.773	1.307	1.249	1.046
						7	.027	2.801	.739	.745	1.307	1.296	1.008
						10	.004	3.204	.739	.721	1.305	1.338	.975
						11	.006	2.921	.739	.743	1.303	1.296	1.005
					114.96*	5	.003	3.098	.741	.800	1.304	1.208	1.079
						6	.022	2.900	.741	.773	1.307	1.252	1.044
						11	.006	2.921	.741	.743	1.303	1.300	1.002
						12	-.019	3.138	.741	.777	1.298	1.237	1.049
16X16	SPIKE	586.	1.52	2400.									
					114.96*	5	.109	1.545	.368	.389	1.312	1.240	1.058
						6	.135	1.548	.368	.384	1.314	1.258	1.044
						11	.112	1.458	.368	.365	1.311	1.322	.992
						12	.079	1.613	.368	.386	1.305	1.244	1.049
					129.16*	6	.079	1.546	.330	.457	1.684	1.214	1.387
						7	.178	1.530	.330	.325	1.989	2.015	.987
						10	.154	1.565	.330	.298	1.928	2.133	.904
						11	.150	1.478	.330	.322	1.899	1.942	.978
16X16	SPIKE	516.	1.50	2400.									
					114.96*	5	.026	1.537	.471	.491	1.287	1.234	1.043
						6	.053	1.534	.471	.490	1.296	1.245	1.041
						11	.028	1.450	.471	.460	1.286	1.315	.978
						12	-.008	1.608	.471	.482	1.279	1.250	1.024
					114.96*	6	.053	1.534	.469	.490	1.296	1.242	1.044
						7	.061	1.518	.469	.478	1.298	1.275	1.018
						10	.027	1.567	.469	.437	1.288	1.384	.931
						11	.028	1.450	.469	.460	1.286	1.312	.981

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	495.	1.50	2210.									
					114.96*	5	.013	1.543	.485	.547	1.284	1.138	1.128
						6	.042	1.468	.485	.535	1.291	1.170	1.104
						11	.017	1.444	.485	.511	1.283	1.216	1.055
						12	-.021	1.636	.485	.538	1.276	1.150	1.110
					129.16*	6	.086	1.489	.435	.473	1.693	1.555	1.089
						7	.096	1.466	.435	.456	1.723	1.642	1.049
						10	.066	1.527	.435	.418	1.638	1.702	.963
						11	.065	1.450	.435	.450	1.618	1.562	1.035
16X16	SPIKE	489.	1.51	2000.									
					129.16*	7	.120	1.480	.430	.448	1.803	1.730	1.042
						8	.150	1.397	.430	.371	1.883	2.185	.862
						9	.121	1.444	.430	.415	1.800	1.866	.965
						10	.092	1.535	.430	.410	1.725	1.808	.954
					129.16	6	.110	1.505	.430	.464	1.778	1.648	1.079
						7	.120	1.480	.430	.448	1.803	1.730	1.042
						10	.092	1.535	.430	.410	1.725	1.808	.954
					*	11	.087	1.474	.430	.451	1.695	1.615	1.049
					114.96*	5	.045	1.523	.480	.536	1.293	1.158	1.116
						6	.072	1.472	.480	.526	1.300	1.185	1.097
						11	.050	1.435	.480	.504	1.293	1.231	1.050
						12	.016	1.698	.480	.530	1.288	1.167	1.104
16X16	SPIKE	500.	1.51	2210.									
					129.16*	6	.089	1.501	.429	.469	1.707	1.558	1.095
						7	.098	1.478	.429	.454	1.732	1.635	1.059
						10	.069	1.538	.429	.416	1.649	1.699	.970
						11	.068	1.460	.429	.447	1.628	1.560	1.043
					114.96*	5	.017	1.551	.478	.542	1.285	1.133	1.134
						6	.045	1.476	.478	.531	1.292	1.165	1.110
						11	.021	1.449	.478	.507	1.284	1.211	1.060
						12	-.016	1.658	.478	.535	1.278	1.143	1.118
16X16	SPIKE	486.	1.49	1750.									
					114.96*	6	.107	1.474	.459	.496	1.311	1.212	1.081
						7	.114	1.453	.459	.484	1.312	1.244	1.054
						10	.084	1.531	.459	.447	1.305	1.339	.975
						11	.084	1.434	.459	.486	1.304	1.232	1.058
					129.16	6	.140	1.492	.412	.434	1.872	1.780	1.052
						7	.150	1.468	.412	.418	1.897	1.873	1.012
						10	.125	1.517	.412	.383	1.828	1.970	.928
					*	11	.119	1.454	.412	.427	1.796	1.734	1.036
					114.96*	5	.082	1.507	.460	.507	1.305	1.185	1.101
						6	.107	1.474	.460	.496	1.311	1.215	1.078
						11	.084	1.434	.460	.486	1.304	1.235	1.055
						12	.054	1.623	.460	.498	1.298	1.201	1.081
16X16	SPIKE	488.	1.52	2000.									
					129.16	6	.099	1.511	.425	.483	1.742	1.534	1.136
						7	.108	1.487	.425	.468	1.765	1.604	1.100
						10	.081	1.545	.425	.426	1.690	1.685	1.003
					*	11	.077	1.481	.425	.466	1.663	1.517	1.096

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	471.	1.02	2200.									
					129.16	6	.116	1.027	.343	.400	1.670	1.429	1.169
						7	.126	1.014	.343	.386	1.702	1.509	1.128
						10	.093	1.040	.343	.355	1.600	1.542	1.037
					*	11	.088	.974	.343	.388	1.560	1.376	1.133
					129.16*	7	.126	1.014	.343	.386	1.702	1.509	1.128
						8	.163	.965	.343	.317	1.811	1.959	.924
						9	.128	.988	.343	.357	1.699	1.629	1.043
						10	.093	1.040	.343	.355	1.600	1.542	1.037
					114.96*	5	.033	1.036	.382	.471	1.277	1.036	1.233
						6	.065	1.006	.382	.462	1.286	1.064	1.208
						11	.038	.974	.382	.443	1.277	1.101	1.159
						12	-.003	1.143	.382	.467	1.270	1.039	1.222
16X16	SPIKE	505.	1.97	1740.									
					129.16	6	.114	1.970	.461	.476	1.875	1.816	1.033
						7	.122	1.937	.461	.459	1.894	1.903	.995
						10	.101	2.005	.461	.419	1.840	2.024	.909
					*	11	.097	1.922	.461	.465	1.812	1.798	1.008
					114.96*	6	.087	1.938	.514	.539	1.312	1.250	1.050
						7	.092	1.911	.514	.526	1.313	1.280	1.025
						10	.066	2.028	.514	.487	1.309	1.380	.948
						11	.068	1.886	.514	.521	1.307	1.288	1.015
					114.96*	5	.066	1.989	.515	.549	1.308	1.227	1.066
						6	.087	1.938	.515	.539	1.312	1.253	1.047
						11	.068	1.886	.515	.521	1.307	1.291	1.013
						12	.042	2.151	.515	.541	1.303	1.241	1.050
16X16	SPIKE	488.	1.98	2000.									
					129.16*	6	.070	1.949	.523	.561	1.732	1.616	1.072
						7	.078	1.913	.523	.542	1.752	1.690	1.037
						10	.053	2.013	.523	.496	1.688	1.779	.949
						11	.052	1.908	.523	.533	1.667	1.636	1.019
					114.96*	5	.009	2.066	.584	.647	1.292	1.166	1.108
						6	.032	1.927	.584	.632	1.297	1.198	1.082
						11	.012	1.923	.584	.604	1.290	1.248	1.034
						12	-.020	2.137	.584	.630	1.285	1.190	1.079
16X16	SPIKE	465.	2.00	2400.									
					114.96*	6	-.066	2.092	.689	.744	1.272	1.177	1.081
						7	-.058	2.085	.689	.731	1.274	1.201	1.061
						10	-.099	2.104	.689	.659	1.264	1.320	.958
						11	-.094	1.906	.689	.675	1.263	1.288	.981
					114.96	5	-.098	2.041	.690	.731	1.264	1.193	1.059
					*	6	-.066	2.092	.690	.744	1.272	1.180	1.078
						11	-.094	1.906	.690	.675	1.263	1.291	.978
						12	-.140	2.072	.690	.707	1.255	1.226	1.023
16X16	SPIKE	464.	1.98	2215.									
					114.96	5	-.052	2.027	.667	.707	1.275	1.202	1.061
					*	6	-.023	2.077	.667	.717	1.283	1.194	1.075
						11	-.047	1.895	.667	.656	1.274	1.295	.984
						12	-.088	2.057	.667	.685	1.266	1.233	1.027
					114.96*	6	-.023	2.077	.665	.717	1.283	1.191	1.077
						7	-.016	2.070	.665	.703	1.285	1.216	1.056
						10	-.052	2.093	.665	.638	1.275	1.331	.958
						11	-.047	1.895	.665	.656	1.274	1.291	.986

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	452.	2.01	2000.									
					114.96	5	-.028	2.066	.664	.716	1.281	1.189	1.077
						* 6	-.003	2.119	.664	.722	1.289	1.186	1.087
						11	-.024	1.932	.664	.667	1.280	1.275	1.094
						12	-.060	2.094	.664	.694	1.273	1.219	1.044
					129.16*	6	-.003	2.119	.595	.722	1.536	1.266	1.213
						7	.005	2.110	.595	.706	1.556	1.311	1.186
						10	-.029	2.133	.595	.643	1.465	1.355	1.081
						11	-.024	1.932	.595	.667	1.445	1.290	1.121
16X16	SPIKE	436.	1.99	1750.									
					129.16*	6	.044	1.924	.567	.634	1.644	1.472	1.117
						7	.053	1.864	.567	.611	1.662	1.543	1.077
						10	.027	2.038	.567	.561	1.613	1.631	.989
						11	.026	1.938	.567	.607	1.592	1.489	1.069
16X16	SPIKE	459.	2.02	2000.									
					114.96	5	-.025	2.078	.649	.711	1.282	1.170	1.096
						* 6	.000	2.131	.649	.719	1.290	1.165	1.108
						11	-.021	1.944	.649	.663	1.281	1.254	1.022
						12	-.056	2.106	.649	.688	1.274	1.202	1.061
					114.96*	6	.000	2.131	.647	.719	1.290	1.162	1.110
						7	.007	2.098	.647	.700	1.292	1.194	1.082
						10	-.025	2.145	.647	.639	1.283	1.299	.988
						11	-.021	1.944	.647	.668	1.281	1.251	1.024
					129.16*	6	.042	1.967	.581	.617	1.646	1.552	1.061
						7	.052	1.913	.581	.593	1.667	1.634	1.020
						10	.024	2.081	.581	.550	1.609	1.701	.946
						11	.022	1.974	.581	.591	1.585	1.560	1.016
16X16	SPIKE	471.	1.96	1750.									
					129.16*	6	.082	1.924	.513	.549	1.766	1.649	1.071
						7	.089	1.889	.513	.532	1.783	1.719	1.037
						10	.066	1.980	.513	.485	1.724	1.821	.947
						11	.064	1.899	.513	.529	1.703	1.650	1.033
					129.16*	7	.089	1.889	.513	.532	1.783	1.719	1.037
						8	.115	1.765	.513	.445	1.843	2.122	.868
						9	.090	1.842	.513	.494	1.778	1.844	.964
						10	.066	1.980	.513	.485	1.724	1.821	.947
16X16	SPIKE	434.	1.01	2400.									
					129.16	6	.042	1.005	.379	.438	1.430	1.237	1.156
						7	.055	.985	.379	.421	1.462	1.316	1.112
						10	.015	1.051	.379	.393	1.367	1.317	1.038
						* 11	.013	.989	.379	.422	1.345	1.207	1.114
					114.96*	5	-.060	1.037	.423	.520	1.254	1.019	1.231
						6	-.024	1.073	.423	.521	1.264	1.024	1.234
						11	-.055	.967	.423	.486	1.253	1.089	1.151
						12	-.107	1.041	.423	.507	1.241	1.035	1.199
					114.96*	6	-.024	1.073	.421	.521	1.264	1.021	1.237
						7	-.016	1.071	.421	.513	1.265	1.040	1.217
						10	-.062	1.069	.421	.467	1.254	1.132	1.108
						11	-.055	.967	.421	.486	1.253	1.086	1.153

SUMMARY OF CE CHF TESTS

CASE		INLET				CONDITIONS AT CHF							
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	REQD F
16X16	SPIKE	426.	1.01	2200.									
					129.16	6	.081	1.008	.381	.442	1.549	1.334	1.161
						7	.092	.992	.381	.427	1.580	1.409	1.121
						10	.055	1.028	.381	.394	1.476	1.428	1.034
						* 11	.055	.978	.381	.425	1.459	1.309	1.115
					114.96*	5	-.013	1.052	.425	.526	1.266	1.022	1.238
						6	.021	1.025	.425	.519	1.273	1.044	1.220
						10	-.013	1.088	.425	.471	1.266	1.143	1.108
						11	-.008	.988	.425	.495	1.265	1.086	1.165
16X16	SPIKE	412.	1.02	2400.									
					129.16	6	.024	1.027	.403	.461	1.385	1.210	1.145
						7	.037	1.000	.403	.443	1.415	1.288	1.098
						10	-.005	1.080	.403	.414	1.326	1.289	1.028
						* 11	-.006	1.009	.403	.443	1.303	1.184	1.100
					114.96*	5	-.083	1.045	.450	.545	1.248	1.029	1.212
						6	-.045	1.082	.450	.547	1.259	1.035	1.216
						11	-.078	.973	.450	.510	1.247	1.100	1.133
						12	-.132	1.048	.450	.531	1.234	1.044	1.181
					114.96*	6	-.045	1.082	.449	.547	1.259	1.033	1.219
						7	-.035	1.080	.449	.536	1.261	1.056	1.194
						10	-.085	1.077	.449	.490	1.248	1.143	1.092
						11	-.078	.973	.449	.510	1.247	1.098	1.136
16X16	SPIKE	411.	.99	2000.									
					129.16*	7	.133	.974	.389	.419	1.713	1.591	1.077
						8	.173	.921	.389	.342	1.832	2.082	.880
						9	.135	.947	.389	.389	1.710	1.713	.999
						10	.098	1.004	.389	.386	1.603	1.614	.993
					129.16	6	.122	.989	.389	.434	1.679	1.504	1.116
						7	.133	.974	.389	.419	1.713	1.591	1.077
						10	.098	1.004	.389	.386	1.603	1.614	.993
						* 11	.092	.966	.389	.426	1.573	1.436	1.095
16X16	SPIKE	324.	1.01	1750.									
					129.16*	7	.129	.970	.472	.482	1.695	1.659	1.022
						8	.174	.904	.472	.395	1.829	2.186	.837
						9	.131	.942	.472	.448	1.694	1.782	.950
						10	.090	1.012	.472	.444	1.580	1.678	.942

E-26-A01

Addendum to:

DETERMINATION OF CORRECT FORM FOR

TASK 1: CORRELATING THE TONG F. FACTOR

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DETERMINATION OF CORRECT FORM FOR

TASK 1: CORRELATING THE TONG F. FACTOR

Final Report

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R. W. Carlson Ali Razban
L. E. Weaver

School of Nuclear Engineering
Georgia Institute of Technology
Atlanta, Georgia 30332

Prepared for

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Addendum to: DETERMINATION OF CORRECT FORM FOR CORRELATING THE TONG F FACTOR

1. Introduction

This addendum to the report documenting the investigation of the nonuniform axial heat flux corrections to the CE-1 critical heat flux correlation serves two purposes. The first is to provide further statistical examination of the data previously reported and the second is to consider alternate representations of the F factor.

2. Additional Statistical Examination

The use of the CE-1 correlation with Tong's F factor to correlate nonuniform axial heat flux experimental measurements of the critical heat flux was documented in the original report. Plots of the ratio of measured to predicted critical heat flux were presented in Fig. 4.2 to 4.6 as a function of quality, mass velocity, heat flux, pressure and equivalent diameter to indicate any uncorrelated dependences on any of these parameters. To provide a quantitative measure of the correlation the data in each of these figures has been least squares fitted to a linear function. The results of the least squares fitting process is presented in Table 2.1 to Table 2.5 and is shown graphically in Figs. 2.1 to 2.5. Each set of experiments was examined separately, the first four sets of experiments combined as a single group and finally all of the experiments combined as a single group. Each of these sets of data demonstrates that the spiked axial power distribution does not have the same characteristics as the other sets of data.

3. Alternate Formulation of F Factor

The large variation in equivalent diameter that characterizes the flow channels suggests that an alternative form of the F factor is more appropriate for the representation of this set of experiments. Smith, Royer and Tong developed an expression for the F factor that retained the functional dependence with the exception that all lengths are expressed as a ratio of the length to equivalent diameter. This version of the F factor is given by:

$$F = \frac{C}{q''(\ell)(1 - e^{-C\ell/D})} \int_0^{\ell} q''(Z)e^{-C(\ell/D-Z/D)}$$

where ℓ is the distance from the start of heating to the point of CHF

Z is the position measured from the start of heating

$q''(Z)$ is the local heat flux at position Z

C is an empirically determined constant.

Smith, Royer and Tong state that this form of the F factor fits the experimental data when the constant C has the value 0.135. This is comparable in magnitude to the expression developed by Tong but it lacks any dependence on quality or mass velocity.

The calculated local quality and mass velocity for each experiment have been employed to determine the predicted critical heat flux using this formulation of the F factor. A plot comparing the measured and predicted critical heat fluxes is presented in Fig. 3.1. The mean ratio of measured to predicted critical heat flux is 0.997 and the standard deviation is 6.27%. These represent no improvement over the mean of 1.3 when using Tong's formulation of the F factor.

Plots of the ratio of measured to predicted critical heat flux as a function of quality, mass velocity, heat flux, equivalent diameter and pressure are presented in Fig. 3.2 to 3.6. Superimposed on each of these figures is the linear function that represents the least squares fit to the data with and without the spiked power distribution set of data.

4. Conclusion

The conclusion regarding the suitability of the CE-1 correlation for predicting critical heat flux when using Tong's F factor remains unchanged. The CE-1 correlation is suspect in its ability to reproduce the uniform axial heat flux experiments although this has not been proven in this study.

The introduction of a different formulation for the F factor did not improve the correlation between the measured and predicted values and actually increased the errors. The least squares fitting of the data as a function of equivalent diameter shows different trends for the data from the 14 × 14 arrays and the 16 × 16 arrays. However, combining these sets virtually eliminates any dependence on equivalent diameter. Thus, the equivalent diameter by itself is not the source of the errors but some unmeasured quantity that is a function of the equivalent diameter and rod array must be suspect. Potential candidates are turbulent mixing and diversion cross flow within the experiment. These were unmeasured and might not be well represented by the available correlations.

TABLE 2.1

Least squares fitting coefficients for dependence on quality

Data Set	Constant	Linear Coefficient
14 × 14 1.68 APD Top	0.9195	0.1818
14 × 14 1.68 APD Bottom	0.9665	1.2803
16 × 16 1.47 APD Top	1.0265	0.9549
16 × 16 1.46 APD Symmetric	1.0325	1.1620
16 × 16 Spike	1.1960	1.9104
All without Spike	1.0020	0.7554
All	1.0467	1.0301

TABLE 2.2

Least squares fitting coefficients for dependence on mass velocity

Data Set	Constant	Linear Coefficient
14 × 14 1.68 APD Top	0.8443	0.0435×10^{-6}
14 × 14 1.68 APD Bottom	0.7963	0.1143×10^{-6}
16 × 16 1.47 APD Top	0.8988	0.0849×10^{-6}
16 × 16 1.46 APD Symmetric	0.9292	0.0880×10^{-6}
16 × 16 Spike	1.4499	-0.0559×10^{-6}
All without Spike	0.8647	0.0884×10^{-6}
All	0.9842	0.0617×10^{-6}

TABLE 2.3

Least squares fitting coefficients for dependence on heat flux

Data Set	Constant	Linear Coefficient
14 × 14 1.68 APD Top	0.9034	0.0607
14 × 14 1.68 APD Bottom	1.1374	-0.4333
16 × 16 1.47 APD Top	1.0834	-0.0006
16 × 16 1.46 APD Symmetric	1.1655	-0.1083
16 × 16 Spike	1.6861	-0.6957
All without Spike	1.0844	-0.0718
All	1.0972	0.0443

TABLE 2.4

Least squares fitting coefficients for dependence on equivalent diameter

Data Set	Constant	Linear Coefficient
14 × 14 1.68 APD Top	1.3942	-0.8668
14 × 14 1.68 APD Bottom	1.7151	-1.3984
16 × 16 1.47 APD Top	0.8087	0.5305
16 × 16 1.46 APD Symmetric	0.6667	0.9084
16 × 16 Spike	1.8280	-0.9923
All without Spike	1.0213	0.0586
All	1.2684	-0.2787

TABLE 2.5

Least Squares Fitting Coefficients for Dependence on Pressure

Data Set	Constant	Linear Coefficient
14 × 14 1.68 APD Top	0.9513	-0.7214×10^{-5}
14 × 14 1.68 APD Bottom	1.6507	-0.2959×10^{-3}
16 × 16 1.47 APD Top	1.2214	-0.6523×10^{-4}
16 × 16 1.46 APD Symmetric	1.2919	-0.8337×10^{-4}
16 × 16 Spike	2.1774	-0.4098×10^{-3}
All without Spike	1.2642	-0.1008×10^{-3}
All	1.4941	-0.1808×10^{-3}

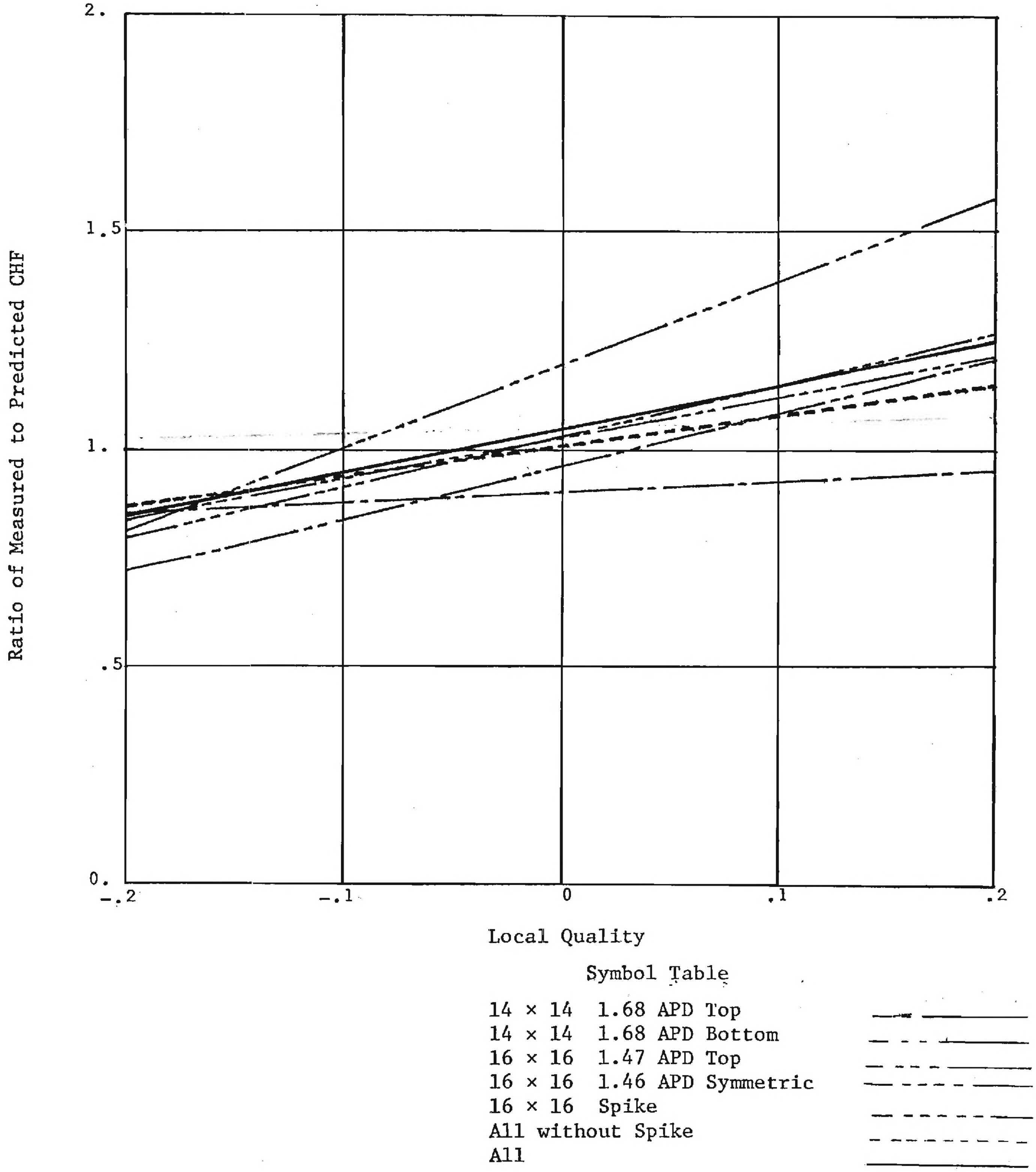
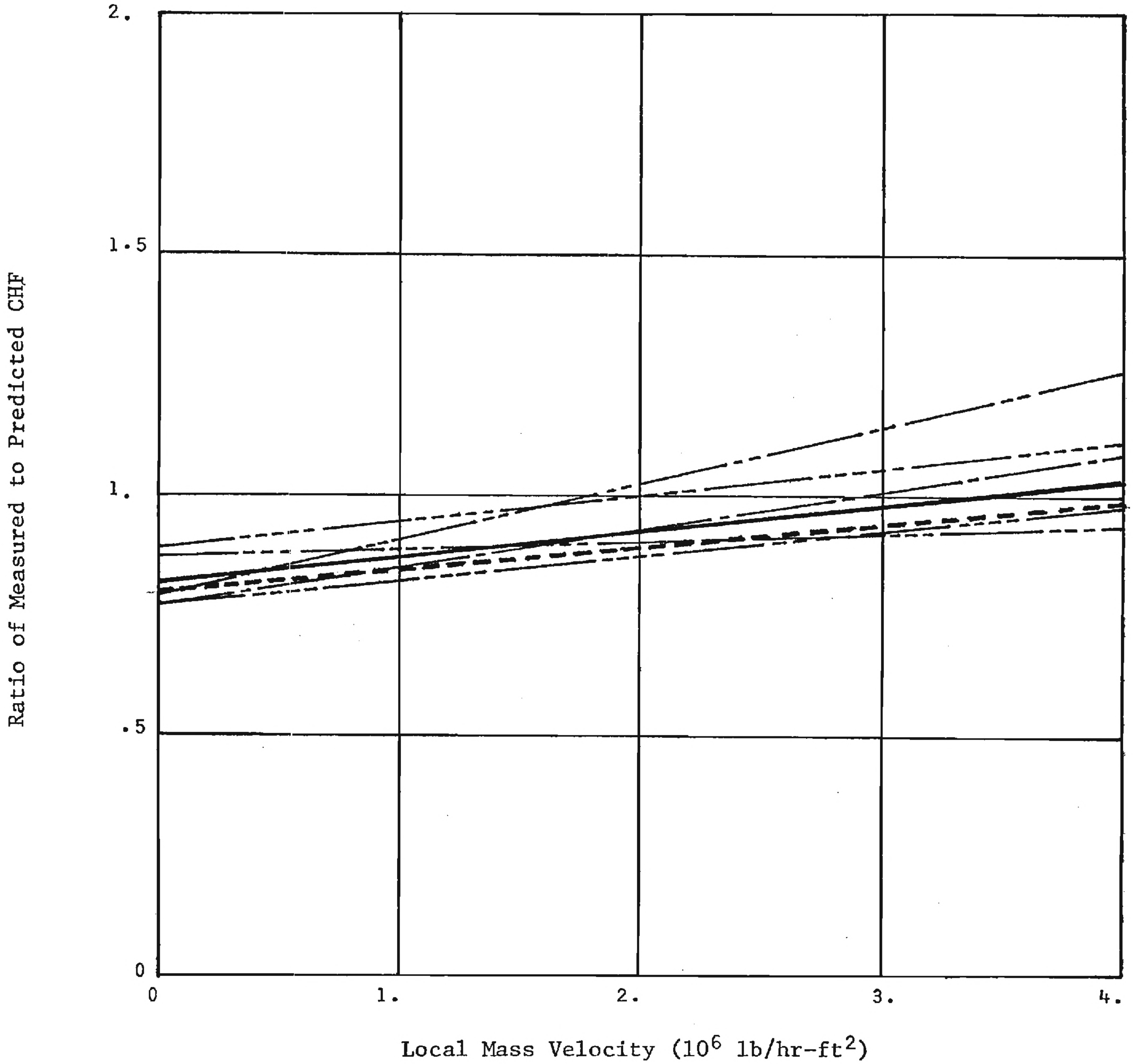


Figure 2.1 Variation of CHF Prediction with Quality



Symbol Table

14 × 14	1.68 APD Top	— — ————
14 × 14	1.68 APD Bottom	— - - ————
16 × 16	1.47 APD Top	— - - - ————
16 × 16	1.46 APD Symmetric	— - - - - ———
16 × 16	Spike	— - - - - - ——
All without Spike		— - - - - - - —
All		————————

Figure 2.2 Variation of CHF Prediction with Mass Velocity

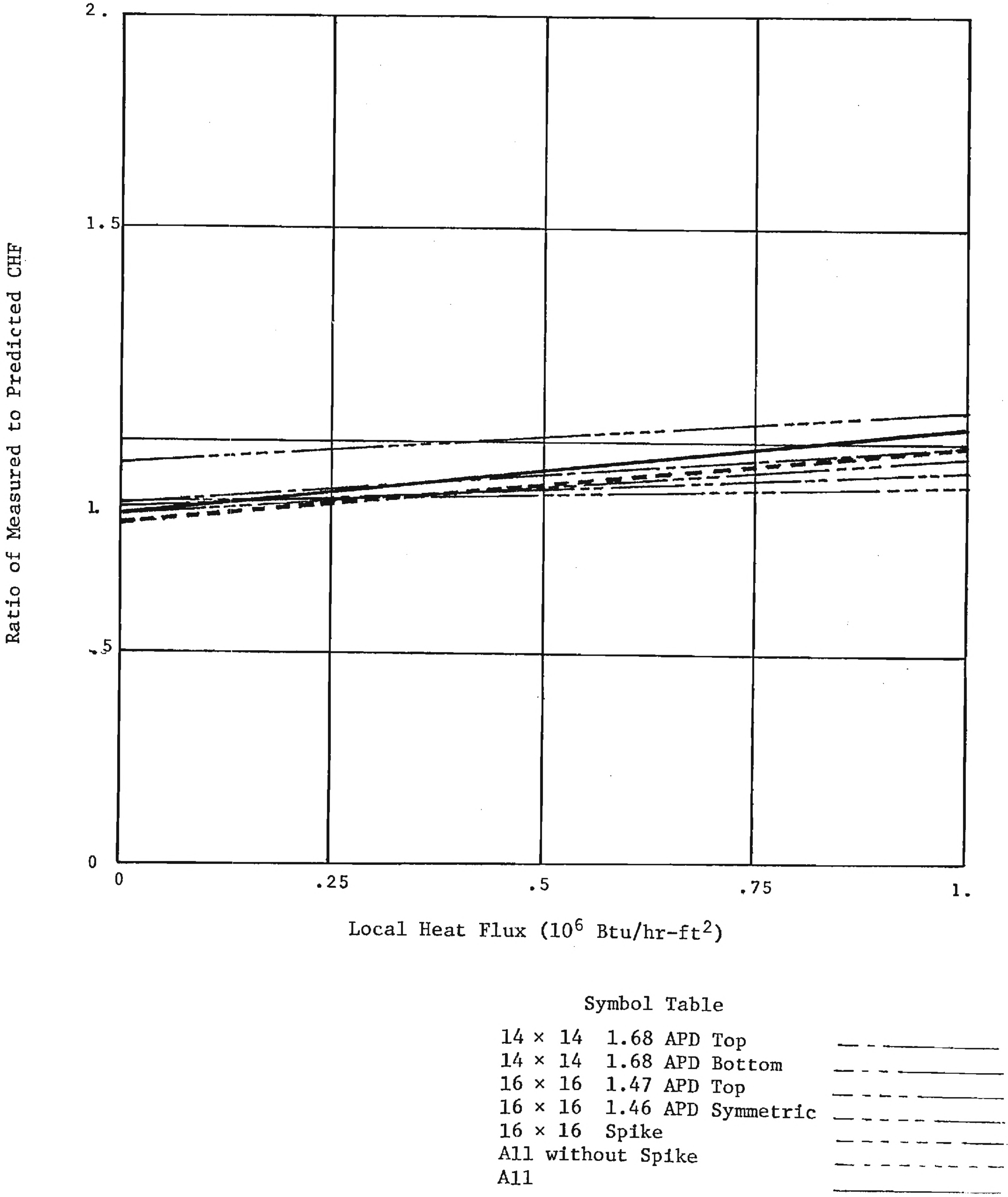


Figure 2.3 Variation of CHF Prediction with Heat Flux

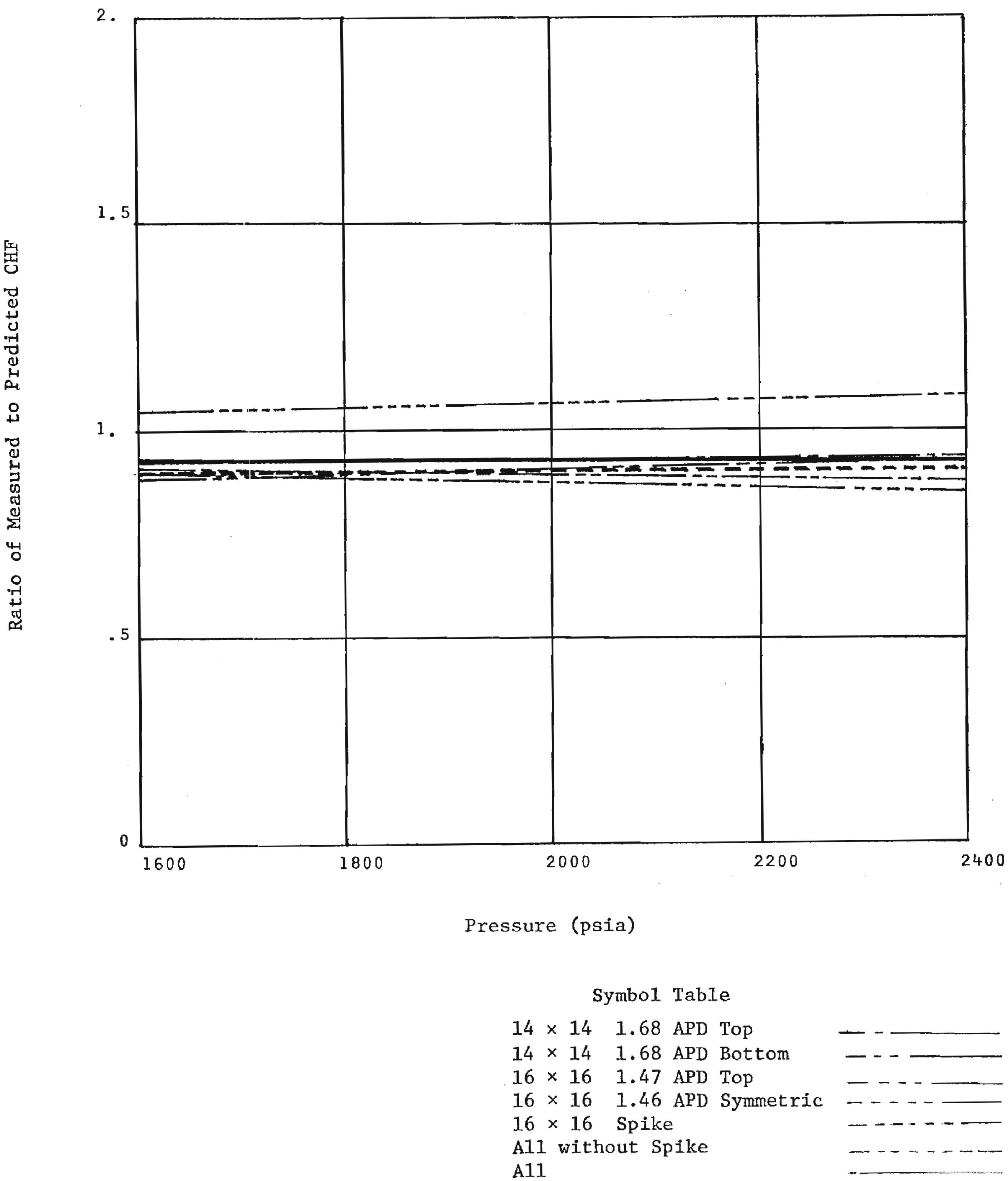
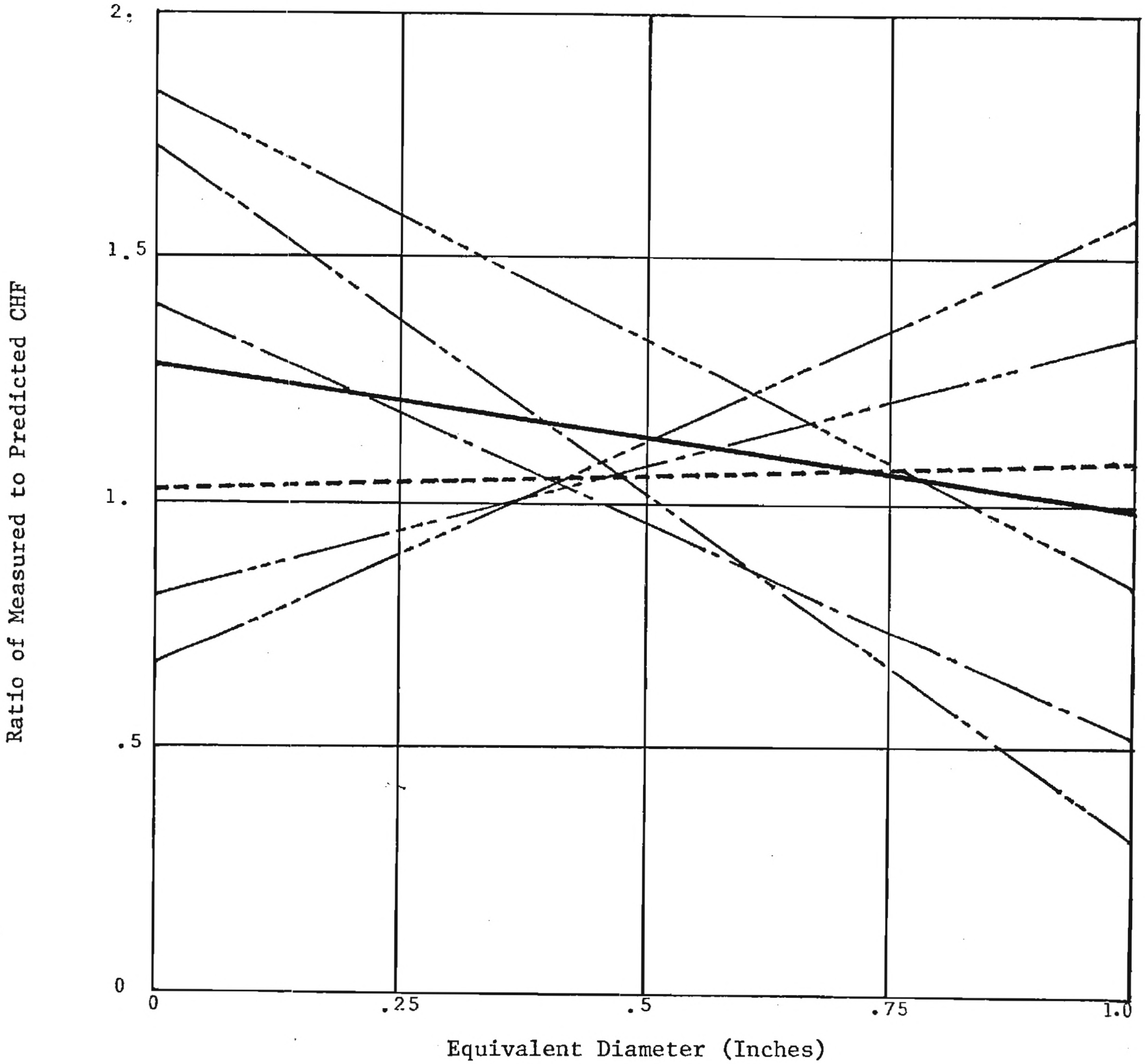


Figure 2.4 Variation of CHF Prediction with Pressure



Symbol Table

14 × 14 1.68 APD Top	― - ―――――
14 × 14 1.68 APD Bottom	― ― ― ―――――
16 × 16 1.47 APD Top	― ― ― ― ―――――
16 × 16 1.46 APD Symmetric	― ― ― ― ― ―――――
16 × 16 Spike	― ― ― ― ― ― ―――――
All without Spike	- - - - - - - - - - - -
All	―――――――――

Figure 2.5 Variation of CHF Prediction with Equivalent Diameter

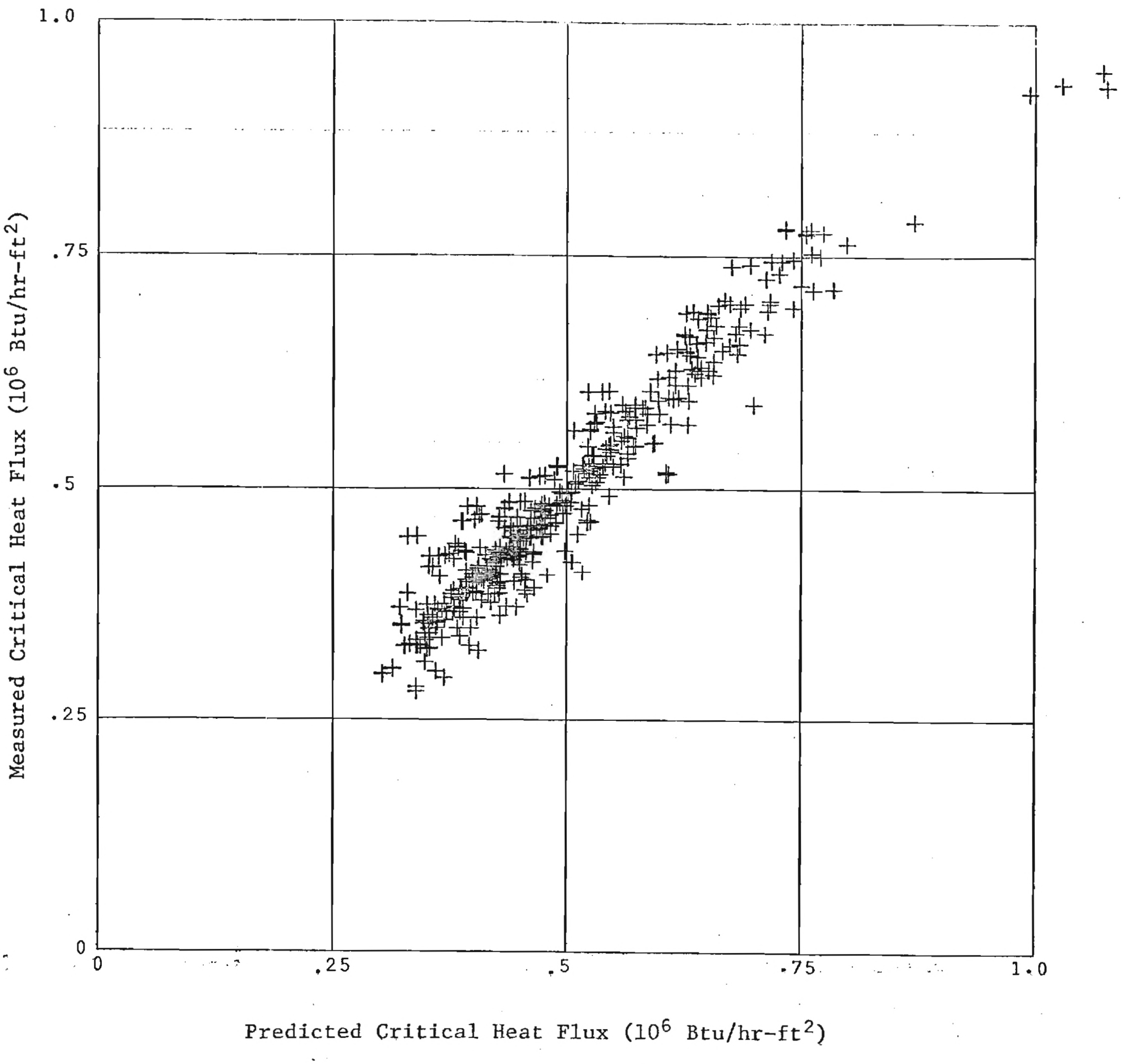


Figure 3.1 Comparison of Measured and Predicted CHF Using CE-1 Correlation with Smith, Rohrer and Tong's F Factor

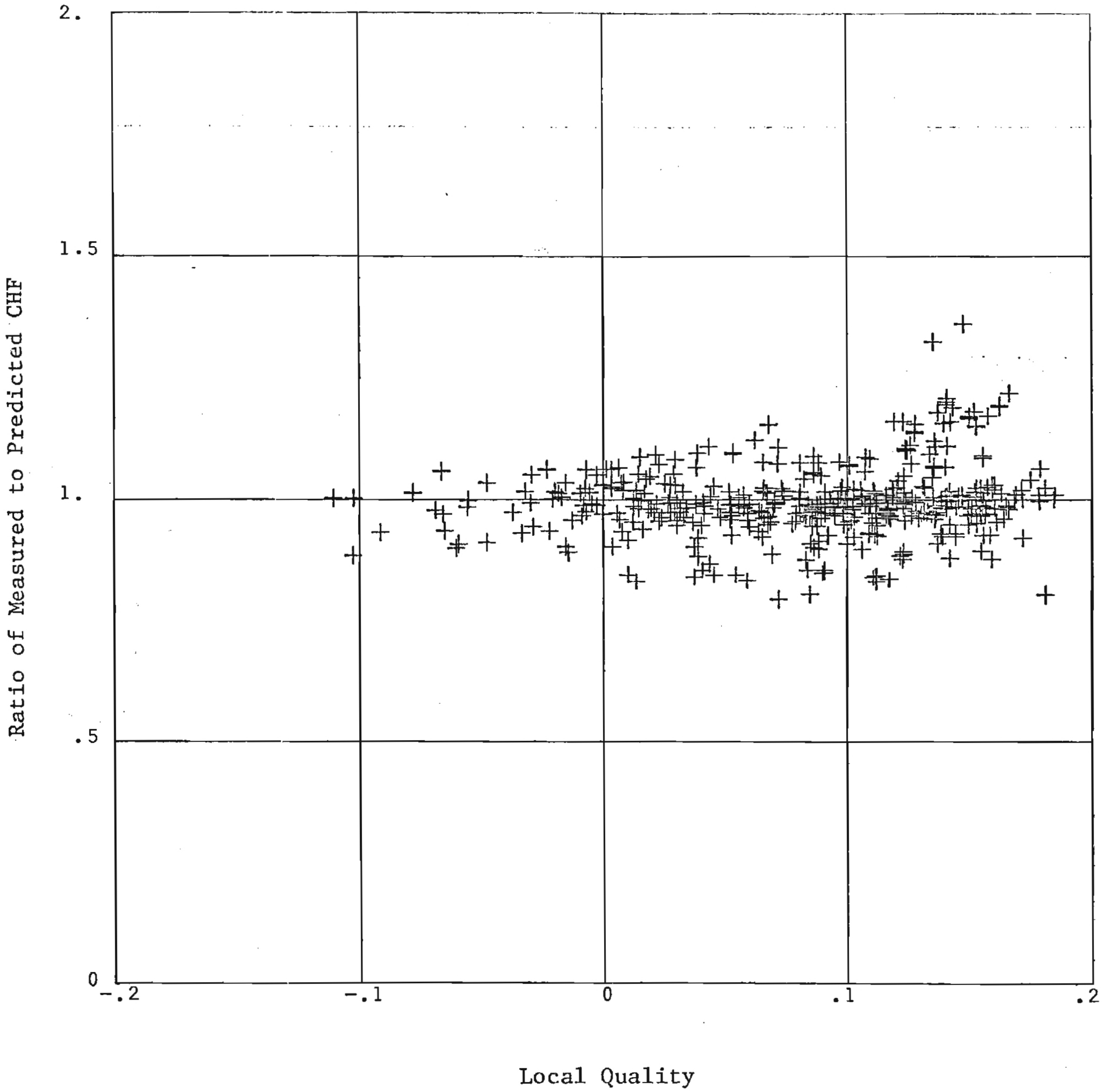


Figure 3.2 Variation of CHF Prediction with Quality

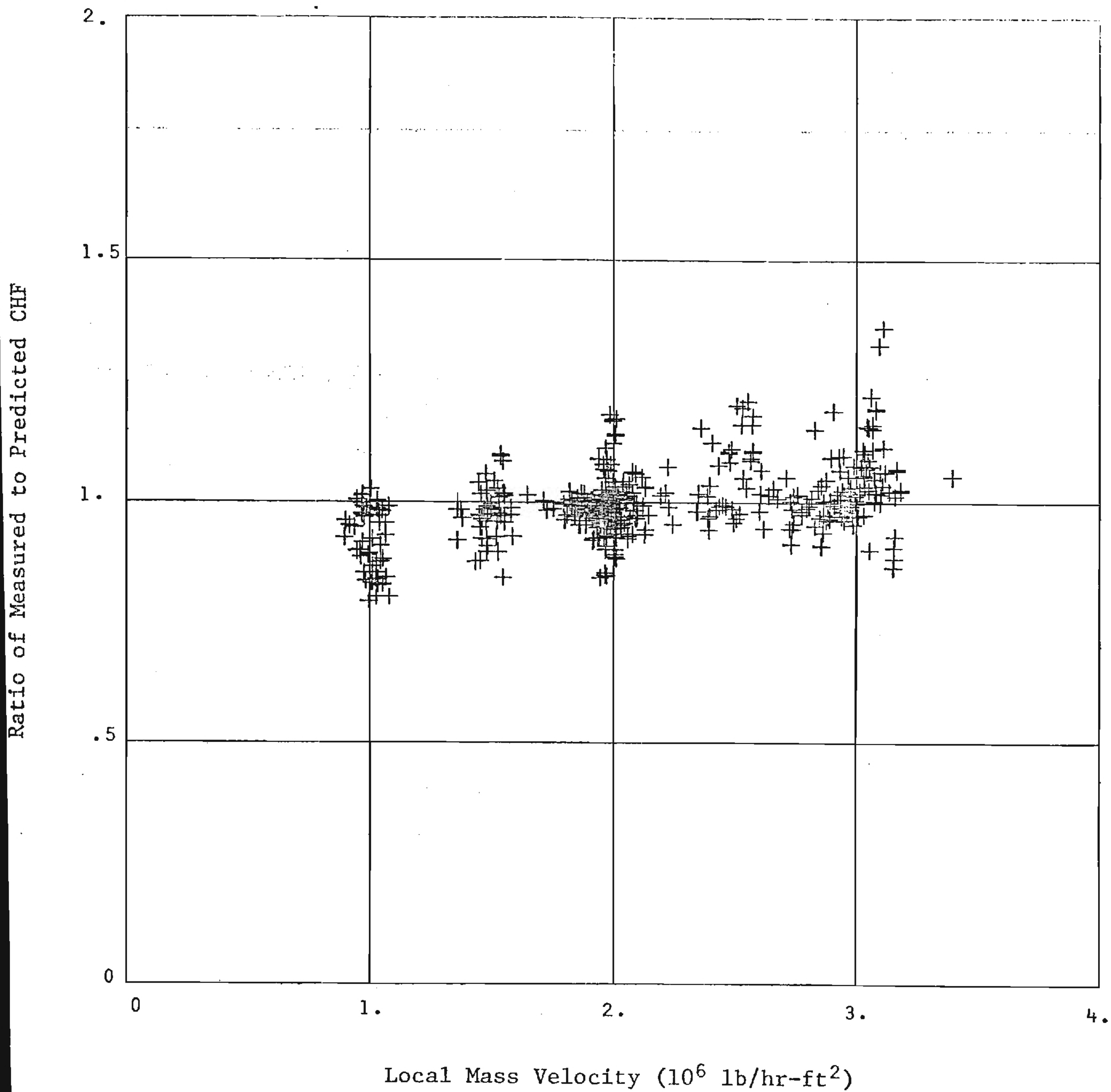


Figure 3.3 Variation of CHF Prediction with Mass Velocity

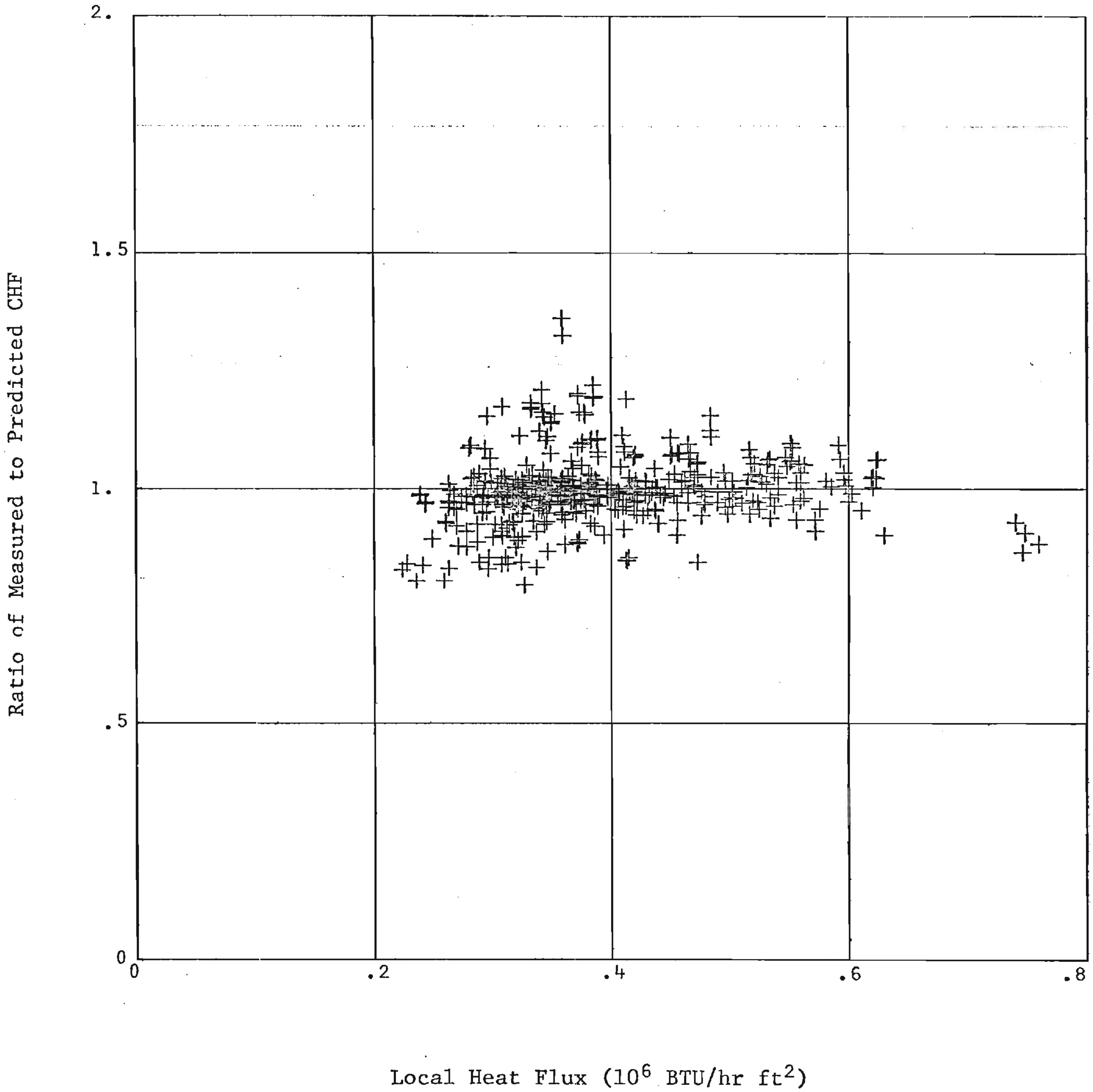


Figure 3.4 Variation of CHF Prediction with Heat Flux

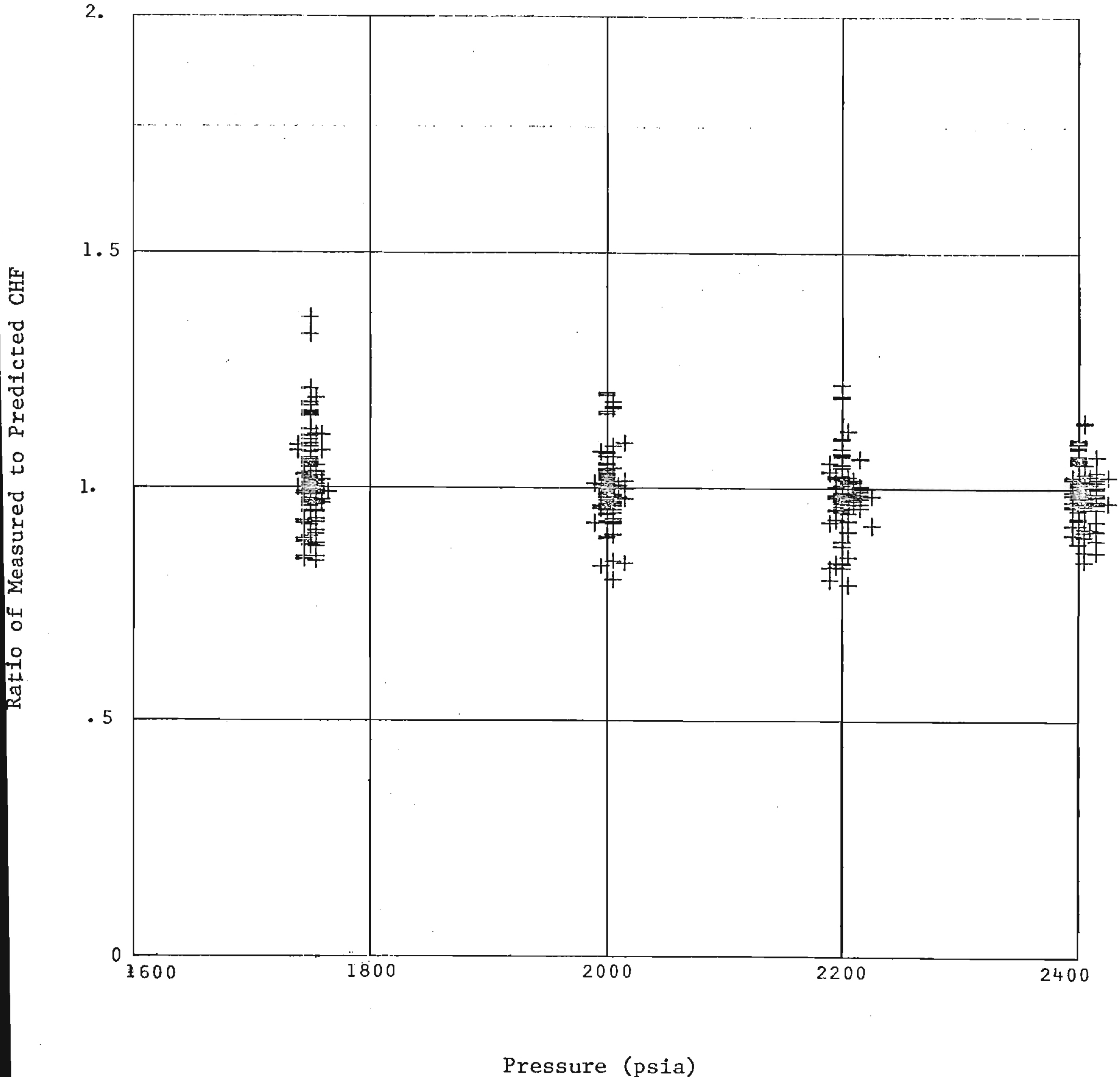


Figure 3.5 Variation of CHF Prediction with Pressure

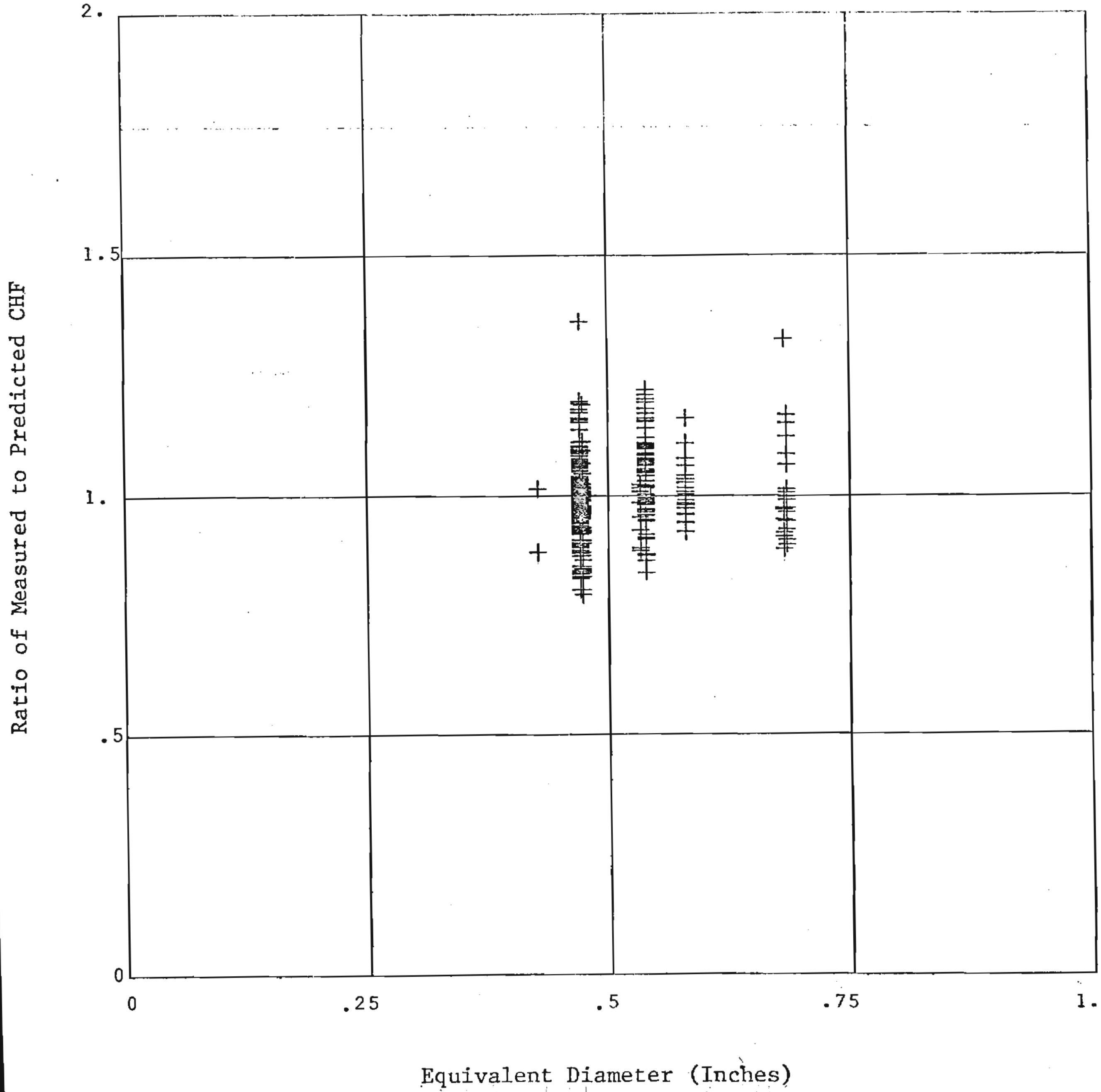


Figure 3.6 Variation of CHF Prediction with Equivalent Diameter

APPENDIX A

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 TOP	625.	1.98	2415.									
					122.65	2	.141	1.958	.487	.440	.968	1.071	.968
					*	3	.140	1.960	.487	.441	.968	1.069	.969
						6	.145	2.012	.487	.414	.969	1.139	.966
						7	.145	2.010	.487	.414	.969	1.140	.966
14X14	1.68 TOP	604.	1.93	2400.									
					140.05	2	.148	1.907	.469	.424	.877	.970	.942
						3	.147	1.911	.469	.426	.877	.965	.942
					*	6	.148	1.977	.469	.407	.874	1.007	.943
						7	.149	1.972	.469	.404	.874	1.014	.943
					122.65	2	.094	1.891	.526	.506	.968	1.005	.980
					*	3	.093	1.893	.526	.507	.968	1.003	.980
						6	.098	1.939	.526	.476	.969	1.071	.979
						7	.098	1.937	.526	.476	.969	1.071	.979
					122.65*	3	.093	1.893	.520	.507	.968	.992	.980
						4	.077	1.889	.520	.561	.968	.898	.982
						5	.077	1.944	.520	.539	.968	.934	.982
						6	.098	1.939	.520	.476	.969	1.059	.979
					122.65	1	.080	1.878	.520	.554	.968	.908	.982
					*	2	.094	1.891	.520	.506	.968	.994	.980
						7	.098	1.937	.520	.476	.969	1.058	.979
						8	.090	1.902	.520	.513	.968	.980	.981
14X14	1.68 TOP	606.	1.98	2195.									
					140.05	2	.160	1.962	.428	.414	.877	.908	.946
						3	.159	1.965	.428	.416	.877	.904	.946
						6	.160	2.035	.428	.395	.874	.948	.946
					*	7	.161	2.029	.428	.392	.874	.954	.946
14X14	1.68 TOP	608.	1.95	1990.									
					140.05	2	.186	1.937	.391	.357	.877	.960	.950
						3	.185	1.940	.391	.359	.877	.955	.949
					*	6	.185	2.010	.391	.337	.874	1.011	.950
						7	.186	2.005	.391	.335	.874	1.019	.950

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD		INLET TEMP	G	PRESS	Z		CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68	TOP	596.	1.97	1755.										
						122.65		2	.155	1.948	.435	.409	.968	1.029	.963
							*	3	.155	1.950	.435	.410	.968	1.026	.963
								6	.158	2.003	.435	.378	.969	1.115	.961
								7	.158	2.001	.435	.377	.969	1.117	.961
						122.65		1	.147	1.923	.429	.454	.968	.916	.967
								2	.155	1.948	.429	.409	.968	1.017	.963
								7	.158	2.001	.429	.377	.969	1.103	.961
							*	8	.153	1.958	.429	.415	.968	1.003	.964
						122.65	*	3	.155	1.950	.430	.410	.968	1.015	.963
								4	.144	1.933	.430	.459	.968	.905	.968
								5	.144	1.995	.430	.436	.968	.956	.967
								6	.158	2.003	.430	.378	.969	1.103	.961
						140.05		7	.189	2.024	.385	.306	.874	1.099	.950
							*	8	.185	1.967	.385	.338	.877	1.000	.950
								9	.178	1.991	.385	.353	.877	.956	.949
								10	.166	2.092	.385	.351	.873	.958	.948
						122.65		7	.158	2.001	.432	.377	.969	1.109	.961
							*	8	.153	1.958	.432	.415	.968	1.008	.964
								9	.147	1.982	.432	.429	.968	.975	.966
								10	.133	2.094	.432	.428	.969	.977	.969
						122.65		6	.158	2.003	.430	.378	.969	1.104	.961
								7	.158	2.001	.430	.377	.969	1.106	.961
							*	10	.133	2.094	.430	.428	.969	.974	.969
								11	.138	1.926	.430	.488	.968	.853	.970
14X14	1.68	TOP	587.	1.98	2415.										
						122.65		2	.056	1.912	.588	.564	.968	1.008	.983
							*	3	.056	1.914	.588	.565	.968	1.006	.984
								6	.061	1.958	.588	.530	.969	1.075	.983
								7	.061	1.952	.588	.529	.969	1.075	.983
14X14	1.68	TOP	583.	1.99	2195.										
						122.65		2	.077	1.935	.547	.563	.968	.940	.982
								3	.076	1.937	.547	.564	.968	.938	.982
								6	.081	1.982	.547	.528	.969	1.004	.981
							*	7	.080	1.980	.547	.528	.969	1.003	.981
14X14	1.68	TOP	578.	2.01	2000.										
						140.05	*	7	.147	2.045	.479	.414	.874	1.010	.944
								8	.142	1.993	.479	.448	.877	.937	.942
								9	.133	2.024	.479	.469	.877	.895	.939
								10	.117	2.132	.479	.473	.873	.884	.936
						140.05		1	.136	1.947	.476	.484	.881	.867	.939
								2	.147	1.978	.476	.439	.877	.952	.943
							*	7	.147	2.045	.476	.414	.874	1.005	.944
								8	.142	1.993	.476	.448	.877	.932	.942
						140.05		2	.147	1.978	.482	.439	.877	.963	.943
								3	.146	1.982	.482	.441	.877	.958	.942
							*	6	.146	2.052	.482	.417	.874	1.010	.943
								7	.147	2.045	.482	.414	.874	1.017	.944
						122.65	*	2	.102	1.962	.540	.530	.968	.987	.978
								3	.102	1.965	.540	.531	.968	.985	.978
								6	.106	2.010	.540	.495	.969	1.058	.977
								7	.106	2.007	.540	.495	.969	1.059	.977
						140.05		3	.146	1.982	.477	.441	.877	.948	.942
								4	.132	1.964	.477	.494	.881	.850	.938
								5	.128	2.044	.477	.481	.877	.870	.938
							*	6	.146	2.052	.477	.417	.874	.999	.943

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14 1.68	TOP	570.	2.02	1745.									
					140.05*	7	.144	2.059	.433	.406	.874	.931	.943
						8	.141	2.004	.433	.442	.877	.858	.941
						9	.133	2.035	.433	.461	.877	.824	.940
						10	.120	2.142	.433	.458	.873	.824	.937
					140.05	1	.136	1.956	.430	.480	.881	.790	.939
						2	.144	1.990	.430	.434	.877	.870	.942
					*	7	.144	2.059	.430	.406	.874	.927	.943
						8	.141	2.004	.430	.442	.877	.854	.941
14X14 1.68	TOP	564.	2.02	1995.									
					140.05*	7	.124	2.045	.505	.460	.874	.957	.937
						8	.119	1.995	.505	.497	.877	.891	.935
						9	.110	2.029	.505	.519	.877	.853	.932
						10	.093	2.144	.505	.523	.873	.843	.928
14X14 1.68	TOP	551.	1.98	1745.									
					140.05*	7	.123	2.004	.467	.456	.874	.894	.936
						8	.119	1.955	.467	.495	.877	.827	.934
						9	.110	1.990	.467	.516	.877	.795	.932
						10	.096	2.099	.467	.514	.873	.794	.929
					140.05	3	.122	1.944	.465	.488	.877	.835	.935
						4	.109	1.931	.465	.546	.881	.751	.930
						5	.106	2.011	.465	.527	.877	.775	.930
					*	6	.122	2.012	.465	.459	.874	.885	.936
					140.05	1	.113	1.913	.465	.537	.881	.763	.931
						2	.123	1.939	.465	.486	.877	.838	.935
					*	7	.123	2.004	.465	.456	.874	.890	.936
						8	.119	1.955	.465	.495	.877	.823	.934
14X14 1.68	TOP	535.	1.94	1990.									
					140.05	3	.091	1.879	.550	.549	.877	.879	.923
						4	.075	1.883	.550	.613	.881	.791	.917
						5	.072	1.958	.550	.594	.877	.813	.917
					*	6	.092	1.941	.550	.518	.874	.927	.924
					140.05	1	.079	1.862	.549	.602	.881	.805	.918
						2	.092	1.874	.549	.547	.877	.881	.923
					*	7	.092	1.934	.549	.517	.874	.928	.924
						8	.087	1.893	.549	.558	.877	.864	.921
14X14 1.68	TOP	524.	1.97	1745.									
					140.05	3	.090	1.908	.517	.565	.877	.803	.923
						4	.076	1.913	.517	.630	.881	.724	.918
						5	.073	1.991	.517	.607	.877	.747	.918
					*	6	.090	1.973	.517	.532	.874	.849	.924
					140.05	1	.080	1.891	.516	.619	.881	.735	.919
						2	.090	1.903	.516	.563	.877	.805	.923
					*	7	.091	1.964	.516	.530	.874	.851	.924
						8	.086	1.923	.516	.573	.877	.791	.922
					140.05*	7	.091	1.964	.519	.530	.874	.856	.924
						8	.086	1.923	.519	.573	.877	.795	.922
						9	.077	1.967	.519	.595	.877	.765	.919
						10	.062	2.096	.519	.594	.873	.763	.916
14X14 1.68	TOP	631.	2.97	2395.									
					122.65	2	.117	2.939	.606	.603	.968	.973	.962
						3	.117	2.942	.606	.604	.968	.971	.963
					*	6	.121	3.017	.606	.572	.969	1.027	.960
						7	.121	3.014	.606	.571	.969	1.028	.960

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 TOP	625.	3.00	2195.									
					122.65	2	.132	2.972	.588	.553	.968	1.028	.955
						* 3	.132	2.975	.588	.555	.968	1.026	.955
						6	.135	3.051	.588	.522	.969	1.091	.953
						7	.135	3.049	.588	.521	.969	1.092	.953
14X14	1.68 TOP	614.	2.96	2015.									
					122.65	2	.135	2.928	.581	.512	.968	1.099	.955
						* 3	.134	2.932	.581	.513	.968	1.096	.955
						6	.137	3.006	.581	.480	.969	1.173	.952
						7	.137	3.003	.581	.479	.969	1.175	.952
					122.65	3	.134	2.932	.575	.513	.968	1.084	.955
						4	.124	2.907	.575	.570	.968	.977	.960
						* 5	.123	2.995	.575	.548	.968	1.016	.959
						6	.137	3.006	.575	.480	.969	1.161	.952
14X14	1.68 TOP	607.	2.93	1755.									
					122.65	3	.143	2.910	.510	.419	.968	1.178	.951
						* 4	.135	2.879	.510	.471	.968	1.048	.955
						5	.135	2.968	.510	.449	.968	1.102	.954
						6	.146	2.987	.510	.387	.969	1.279	.948
					122.65	2	.144	2.906	.516	.418	.968	1.195	.951
						* 3	.143	2.910	.516	.419	.968	1.191	.951
						6	.146	2.987	.516	.387	.969	1.293	.948
						7	.146	2.984	.516	.386	.969	1.295	.948
					122.65	7	.146	2.984	.512	.386	.969	1.286	.948
						8	.142	2.920	.512	.424	.968	1.169	.951
						9	.137	2.951	.512	.441	.968	1.126	.953
						* 10	.126	3.112	.512	.446	.969	1.114	.956
14X14	1.68 TOP	619.	2.93	2395.									
					122.65	2	.081	2.883	.628	.667	.968	.912	.975
						3	.081	2.886	.628	.668	.968	.910	.975
						6	.085	2.955	.628	.632	.969	.964	.973
						* 7	.085	2.952	.628	.631	.969	.964	.973
14X14	1.68 TOP	612.	3.00	2195.									
					122.65*	2	.102	2.954	.632	.624	.968	.980	.968
						3	.102	2.957	.632	.625	.968	.978	.968
						6	.106	3.028	.632	.588	.969	1.040	.966
						7	.106	3.025	.632	.588	.969	1.041	.966
14X14	1.68 TOP	595.	2.98	2000.									
					122.65	2	.098	2.922	.645	.611	.968	1.022	.970
						* 3	.097	2.926	.645	.612	.968	1.019	.970
						6	.101	2.992	.645	.573	.969	1.090	.968
						7	.101	2.989	.645	.573	.969	1.091	.968
14X14	1.68 TOP	580.	3.00	1755.									
					122.65*	2	.091	2.940	.597	.594	.968	.973	.972
						3	.091	2.944	.597	.596	.968	.971	.972
						6	.093	3.012	.597	.555	.969	1.043	.970
						7	.094	3.008	.597	.555	.969	1.044	.970
14X14	1.68 TOP	581.	1.04	2190.									
					140.05	3	.181	1.040	.296	.340	.877	.763	.935
						4	.165	1.020	.296	.381	.881	.684	.928
						5	.160	1.062	.296	.370	.877	.701	.928
						* 6	.181	1.080	.296	.322	.874	.803	.936
14X14	1.68 TOP	553.	1.01	2405.									
					140.05	3	.137	1.007	.349	.351	.877	.871	.917
						4	.115	.989	.349	.396	.881	.778	.907
						5	.109	1.030	.349	.387	.877	.791	.907
						* 6	.137	1.046	.349	.334	.874	.912	.918

SUMMARY OF CE CHF TESTS

CASE		INLET						CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z		CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 TOP	590.	1.98	2415.										
					122.65		2	.047	1.916	.557	.579	.968	.931	.984
							3	.046	1.918	.557	.580	.968	.929	.984
							6	.052	1.964	.557	.545	.969	.990	.984
						*	7	.051	1.959	.557	.544	.969	.991	.984
14X14	1.68 TOP	561.	1.98	2415.										
					122.65		2	-.005	1.998	.638	.671	.968	.920	.983
							3	-.005	2.000	.638	.673	.968	.918	.983
							6	-.000	2.070	.638	.637	.969	.971	.983
						*	7	-.000	2.069	.638	.637	.969	.971	.983
14X14	1.68 TOP	552.	1.98	2215.										
					122.65		2	.022	1.917	.630	.655	.968	.931	.984
							3	.022	1.922	.630	.657	.968	.928	.984
							6	.027	1.961	.630	.615	.969	.992	.984
						*	7	.027	1.956	.630	.614	.969	.993	.984
14X14	1.68 TOP	540.	1.94	2000.										
					140.05		3	.100	1.884	.547	.530	.877	.906	.926
							4	.084	1.886	.547	.593	.881	.814	.920
							5	.080	1.962	.547	.575	.877	.834	.920
						*	6	.101	1.948	.547	.501	.874	.954	.928
					140.05		1	.089	1.866	.547	.581	.881	.828	.921
							2	.101	1.879	.547	.528	.877	.908	.926
						*	7	.102	1.940	.547	.499	.874	.957	.928
							8	.096	1.898	.547	.539	.877	.890	.925
					122.65		2	.047	1.840	.620	.633	.968	.948	.984
							3	.046	1.843	.620	.634	.968	.947	.984
						*	6	.052	1.879	.620	.591	.969	1.017	.984
							7	.051	1.872	.620	.591	.969	1.018	.984
14X14	1.68 TOP	525.	1.98	2400.										
					122.65		2	-.070	2.003	.715	.779	.968	.889	.978
							3	-.070	2.004	.715	.780	.968	.887	.978
							6	-.065	2.079	.715	.740	.969	.936	.979
						*	7	-.065	2.078	.715	.739	.969	.936	.979
14X14	1.68 TOP	521.	1.98	2195.										
					122.65		2	-.026	2.004	.695	.760	.968	.886	.981
							3	-.027	2.005	.695	.761	.968	.884	.981
							6	-.022	2.079	.695	.719	.969	.936	.982
						*	7	-.022	2.078	.695	.719	.969	.936	.982
14X14	1.68 TOP	503.	1.90	1995.										
					140.05		3	.064	1.802	.620	.597	.877	.911	.911
							4	.046	1.831	.620	.669	.881	.818	.905
							5	.043	1.906	.620	.647	.877	.840	.906
						*	6	.066	1.861	.620	.563	.874	.963	.913
14X14	1.68 TOP	574.	2.92	2395.										
					122.65		2	-.019	2.952	.788	.882	.968	.864	.984
							3	-.020	2.954	.788	.884	.968	.863	.984
							6	-.015	3.056	.788	.845	.969	.904	.984
						*	7	-.015	3.055	.788	.844	.969	.904	.984
14X14	1.68 TOP	573.	3.01	2195.										
					122.65		2	.019	2.930	.763	.820	.968	.901	.983
							3	.019	2.936	.763	.822	.968	.899	.983
							6	.023	2.996	.763	.775	.969	.954	.983
						*	7	.023	2.988	.763	.774	.969	.956	.983

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z		CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 TOP	564.	3.01	1995.										
					122.65		2	.040	2.880	.747	.766	.968	.944	.982
							3	.040	2.883	.747	.767	.968	.943	.982
						*	6	.044	2.940	.747	.719	.969	1.007	.981
							7	.044	2.930	.747	.718	.969	1.008	.981
14X14	1.68 TOP	531.	3.01	2400.										
					122.65		2	-.107	3.045	.951	1.084	.968	.849	.979
							3	-.108	3.047	.951	1.086	.968	.848	.979
							6	-.103	3.156	.951	1.040	.969	.885	.980
						*	7	-.102	3.156	.951	1.040	.969	.886	.980
14X14	1.68 TOP	525.	3.01	2205.										
					122.65		2	-.063	3.046	.936	1.043	.968	.869	.982
							3	-.064	3.047	.936	1.045	.968	.867	.982
							6	-.059	3.156	.936	.998	.969	.909	.983
						*	7	-.059	3.156	.936	.997	.969	.909	.983
14X14	1.68 TOP	514.	3.01	2005.										
					122.65		2	-.037	3.047	.926	1.011	.968	.887	.983
							3	-.037	3.049	.926	1.013	.968	.885	.983
							6	-.033	3.157	.926	.964	.969	.931	.984
						*	7	-.033	3.157	.926	.964	.969	.931	.984
14X14	1.68 TOP	545.	1.01	2200.										
					140.05		3	.160	1.006	.349	.366	.877	.836	.926
							4	.139	.989	.349	.413	.881	.745	.917
							5	.133	1.031	.349	.402	.877	.762	.916
						*	6	.159	1.046	.349	.347	.874	.879	.927
14X14	1.68 TOP	515.	.99	2395.										
					140.05		3	.101	.976	.393	.393	.877	.877	.902
							4	.077	.961	.393	.442	.881	.784	.893
							5	.072	.999	.393	.430	.877	.803	.893
						*	6	.103	1.012	.393	.372	.874	.925	.904
14X14	1.68 TOP	504.	1.00	2195.										
					140.05		3	.111	.987	.392	.430	.877	.799	.906
							4	.089	.974	.392	.483	.881	.716	.897
							5	.084	1.014	.392	.467	.877	.736	.897
						*	6	.112	1.025	.392	.406	.874	.843	.908
14X14	1.68 TOP	478.	1.00	2405.										
					140.05		3	.041	.974	.434	.461	.877	.826	.883
							4	.017	.982	.434	.517	.881	.739	.878
							5	.011	1.032	.434	.504	.877	.755	.878
						*	6	.044	1.012	.434	.436	.874	.869	.885
14X14	1.68 TOP	479.	.99	2205.										
					140.05		3	.069	.963	.409	.480	.877	.748	.891
							4	.047	.958	.409	.535	.881	.674	.884
							5	.043	.999	.409	.518	.877	.693	.884
						*	6	.072	.998	.409	.451	.874	.792	.893
14X14	1.68 TOP	470.	.99	1995.										
					140.05		3	.117	.973	.422	.470	.877	.788	.907
							4	.094	.963	.422	.528	.881	.704	.899
							5	.090	1.003	.422	.509	.877	.727	.899
						*	6	.117	1.011	.422	.442	.874	.834	.909
					140.05		1	.101	.954	.422	.519	.881	.717	.901
							2	.118	.970	.422	.468	.877	.790	.908
						*	7	.118	1.007	.422	.442	.874	.834	.909
							8	.111	.979	.422	.478	.877	.774	.906

SUMMARY OF CE CHF TESTS

CASE			INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z		CH	X	G	HEAT FLUX	CEI	F	MEAS PRED	TONG F
14X14	1.68 TOP	529.	1.99	2215.										
					122.65		2	-.013	2.013	.692	.732	.968	.915	.982
							3	-.013	2.014	.692	.733	.968	.913	.982
							6	-.009	2.087	.692	.693	.969	.967	.983
						*	7	-.008	2.087	.692	.693	.969	.968	.983
14X14	1.68 TOP	507.	2.00	2205.										
					122.65		2	-.041	2.024	.750	.788	.968	.921	.981
							3	-.042	2.025	.750	.790	.968	.920	.980
							6	-.037	2.100	.750	.747	.969	.974	.981
						*	7	-.037	2.100	.750	.747	.969	.974	.981
14X14	1.68 TOP	492.	2.00	1755.										
					140.05		3	.052	1.884	.592	.651	.877	.798	.908
							4	.038	1.925	.592	.724	.881	.720	.904
							5	.035	2.006	.592	.698	.877	.744	.905
						*	6	.054	1.946	.592	.611	.874	.845	.910
14X14	1.68 TOP	558.	2.99	1750.										
					122.65		3	.062	2.889	.676	.686	.968	.955	.979
							4	.052	2.915	.676	.762	.968	.858	.980
							5	.052	2.992	.676	.729	.968	.898	.980
						*	6	.066	2.945	.676	.639	.969	1.026	.978
14X14	1.68 TOP	518.	3.00	1765.										
					140.05		3	.056	2.848	.754	.705	.877	.938	.925
							4	.043	2.888	.754	.790	.881	.841	.921
							5	.041	2.996	.754	.767	.877	.862	.922
						*	6	.058	2.934	.754	.665	.874	.990	.927
14X14	1.68 TOP	556.	1.51	2205.										
					140.05		3	.130	1.483	.458	.434	.877	.926	.928
							4	.111	1.473	.458	.487	.881	.829	.921
							5	.107	1.534	.458	.475	.877	.847	.921
						*	6	.130	1.537	.458	.411	.874	.973	.930
					140.05		1	.117	1.459	.458	.477	.881	.846	.923
							2	.131	1.479	.458	.432	.877	.930	.929
						*	7	.132	1.530	.458	.409	.874	.978	.930
							8	.126	1.491	.458	.441	.877	.910	.927
					122.65		2	.068	1.448	.519	.527	.968	.954	.984
							3	.068	1.450	.519	.528	.968	.953	.984
							6	.074	1.482	.519	.491	.969	1.025	.984
						*	7	.073	1.479	.519	.492	.969	1.023	.984
14X14	1.68 TOP	554.	2.43	2215.										
					122.65		2	.003	2.391	.719	.763	.968	.913	.984
							3	.002	2.454	.719	.774	.968	.900	.984
							6	.007	2.502	.719	.728	.969	.958	.984
						*	7	.007	2.500	.719	.727	.969	.958	.984
14X14	1.68 TOP	593.	2.46	2200.										
					122.65	*	2	.079	2.400	.612	.610	.968	.972	.979
							3	.079	2.403	.612	.611	.968	.970	.979
							6	.083	2.457	.612	.573	.969	1.035	.978
							7	.083	2.454	.612	.573	.969	1.035	.978
14X14	1.68 TOP	582.	1.48	2190.										
					140.05		3	.158	1.466	.393	.391	.877	.883	.938
							4	.142	1.447	.393	.437	.881	.793	.932
							5	.137	1.507	.393	.426	.877	.811	.932
						*	6	.158	1.520	.393	.370	.874	.928	.939

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	624.	2.00	2405.									
					70.45*	7	.067	1.966	.167	.524	1.830	.584	2.568
						8	.051	1.965	.167	.581	1.752	.505	2.534
						9	.045	1.991	.167	.594	1.752	.494	2.524
						10	.037	2.095	.167	.579	1.844	.533	2.519
14X14	1.68 BOT	626.	1.99	2200.									
					87.85*	6	.168	2.015	.109	.380	1.959	.562	3.604
						7	.167	2.014	.109	.380	1.959	.561	3.602
						10	.141	2.080	.109	.425	1.977	.507	3.517
						11	.149	1.915	.109	.467	1.741	.406	3.516
					105.25	6	.192	2.047	.222	.340	1.121	.732	1.625
					*	7	.193	2.042	.222	.338	1.121	.736	1.626
						10	.171	2.089	.222	.374	1.124	.667	1.591
						11	.175	1.920	.222	.418	1.091	.580	1.583
14X14	1.68 BOT	612.	2.02	2005.									
					105.25	6	.172	2.075	.217	.365	1.121	.667	1.591
					*	7	.173	2.070	.217	.363	1.121	.671	1.593
						10	.154	2.119	.217	.398	1.124	.613	1.562
						11	.157	1.949	.217	.452	1.091	.524	1.553
14X14	1.68 BOT	594.	2.01	2400.									
					53.05*	7	-.078	2.095	.272	.762	1.910	.681	2.103
						8	-.094	2.039	.272	.824	1.858	.613	2.083
						9	-.098	2.044	.272	.832	1.858	.607	2.078
						10	-.108	2.122	.272	.806	1.919	.647	2.072
					70.45	5	-.024	2.048	.206	.715	1.752	.505	2.356
					*	6	.004	2.062	.206	.632	1.830	.597	2.434
						11	-.016	1.940	.206	.741	1.655	.460	2.362
						12	-.051	2.083	.206	.754	1.769	.483	2.288
					53.05*	6	-.076	2.093	.271	.759	1.910	.682	2.105
						7	-.078	2.095	.271	.762	1.910	.679	2.103
						10	-.108	2.122	.271	.806	1.919	.645	2.072
						11	-.092	1.939	.271	.869	1.785	.557	2.077
14X14	1.68 BOT	574.	2.05	2205.									
					87.85*	6	.078	1.985	.152	.531	1.959	.559	3.217
						7	.077	1.983	.152	.534	1.959	.557	3.210
						10	.044	2.128	.152	.601	1.977	.500	3.087
						11	.056	1.935	.152	.650	1.741	.407	3.095
14X14	1.68 BOT	577.	2.02	2005.									
					105.25	6	.133	2.048	.277	.442	1.121	.702	1.516
					*	7	.134	2.040	.277	.440	1.121	.706	1.517
						10	.110	2.106	.277	.487	1.124	.640	1.478
						11	.113	1.947	.277	.549	1.091	.551	1.471
14X14	1.68 BOT	582.	2.06	1745.									
					87.85*	7	.130	2.057	.117	.439	1.959	.523	3.467
						8	.119	2.036	.117	.495	1.860	.440	3.414
						9	.112	2.065	.117	.511	1.860	.427	3.392
						10	.108	2.143	.117	.467	1.977	.475	3.387
					87.85*	6	.131	2.059	.117	.438	1.959	.523	3.469
						7	.130	2.057	.117	.439	1.959	.522	3.467
						10	.108	2.143	.117	.487	1.977	.474	3.387
						11	.114	1.978	.117	.550	1.741	.370	3.380

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	565.	1.98	2410.									
					87.85	5	-.029	2.020	.154	.715	1.860	.401	2.707
					*	6	.004	2.040	.154	.627	1.959	.481	2.869
						11	-.021	1.911	.154	.740	1.741	.363	2.716
						12	-.061	2.055	.154	.761	1.882	.381	2.571
					70.45*	6	-.063	2.064	.230	.732	1.830	.574	2.252
						7	-.065	2.065	.230	.735	1.830	.572	2.247
						10	-.104	2.094	.230	.790	1.844	.536	2.144
						11	-.087	1.908	.230	.849	1.655	.448	2.161
14X14	1.68 BOT	564.	1.97	2205.									
					87.85*	6	.074	1.889	.157	.529	1.959	.582	3.171
						7	.072	1.886	.157	.531	1.959	.580	3.164
						10	.038	2.048	.157	.602	1.977	.516	3.036
						11	.050	1.849	.157	.649	1.741	.422	3.045
					105.25	6	.111	1.973	.320	.475	1.121	.755	1.468
					*	7	.111	1.965	.320	.473	1.121	.758	1.468
						10	.081	2.046	.320	.528	1.124	.682	1.421
						11	.086	1.895	.320	.587	1.091	.595	1.417
14X14	1.68 BOT	549.	1.98	2005.									
					105.25	6	.103	1.978	.314	.498	1.121	.706	1.455
					*	7	.104	1.968	.314	.496	1.121	.709	1.455
						10	.077	2.054	.314	.549	1.124	.642	1.415
						11	.081	1.905	.314	.617	1.091	.554	1.409
14X14	1.68 BOT	545.	1.98	1755.									
					105.25	6	.115	1.992	.286	.476	1.121	.674	1.477
					*	7	.116	1.982	.286	.473	1.121	.677	1.478
						10	.092	2.056	.286	.522	1.124	.615	1.442
						11	.096	1.908	.286	.597	1.091	.523	1.435
14X14	1.68 BOT	505.	2.00	2405.									
					87.85*	7	-.135	2.099	.178	.849	1.959	.410	2.269
						8	-.155	2.031	.178	.919	1.860	.360	2.179
						9	-.166	2.039	.178	.937	1.860	.353	2.143
						10	-.176	2.117	.178	.905	1.977	.388	2.124
14X14	1.68 BOT	505.	1.93	2205.									
					87.85	5	-.093	1.970	.173	.872	1.860	.369	2.409
					*	6	-.060	2.023	.173	.774	1.959	.438	2.568
						11	-.084	1.861	.173	.906	1.741	.332	2.416
						12	-.125	1.998	.173	.924	1.882	.352	2.285
14X14	1.68 BOT	496.	1.90	2005.									
					105.25	6	.056	1.818	.378	.577	1.121	.735	1.360
					*	7	.056	1.807	.378	.576	1.121	.737	1.359
						10	.025	1.985	.378	.644	1.124	.660	1.328
						11	.033	1.782	.378	.709	1.091	.582	1.323
14X14	1.68 BOT	498.	1.94	1745.									
					105.25*	6	.079	1.878	.348	.555	1.121	.702	1.402
						7	.078	1.871	.348	.557	1.121	.701	1.401
						10	.051	1.992	.348	.615	1.124	.636	1.367
						11	.058	1.844	.348	.690	1.091	.550	1.365
					105.25*	7	.078	1.871	.349	.557	1.121	.703	1.401
						8	.065	1.864	.349	.622	1.107	.621	1.378
						9	.055	1.914	.349	.646	1.107	.598	1.367
						10	.051	1.992	.349	.615	1.124	.637	1.367
14X14	1.68 BOT	604.	2.48	2395.									
					70.45*	7	.034	2.395	.246	.637	1.830	.707	2.543
						8	.016	2.441	.246	.716	1.752	.602	2.507
						9	.009	2.494	.246	.738	1.752	.584	2.497
						10	.000	2.657	.246	.731	1.844	.621	2.492

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	590.	2.53	2205.									
					70.45*	7	.037	2.411	.249	.656	1.830	.694	2.551
						8	.021	2.470	.249	.740	1.752	.589	2.520
						9	.014	2.528	.249	.762	1.752	.572	2.512
						10	.006	2.704	.249	.754	1.844	.609	2.511
					87.85*	7	.091	2.477	.167	.559	1.959	.584	3.377
						8	.075	2.474	.167	.626	1.860	.495	3.307
						9	.067	2.516	.167	.649	1.860	.478	3.279
						10	.061	2.626	.167	.631	1.977	.522	3.269
					87.85*	6	.092	2.477	.166	.557	1.959	.585	3.382
						7	.091	2.477	.166	.559	1.959	.582	3.377
						10	.061	2.626	.166	.631	1.977	.521	3.269
						11	.071	2.410	.166	.681	1.741	.425	3.274
14X14	1.68 BOT	593.	2.47	2005.									
					87.85*	6	.129	2.473	.153	.469	1.959	.641	3.534
						7	.129	2.471	.153	.470	1.959	.640	3.532
						10	.102	2.585	.153	.534	1.977	.568	3.441
						11	.109	2.389	.153	.586	1.741	.456	3.441
					70.45*	7	.084	2.408	.230	.567	1.830	.740	2.637
						8	.069	2.428	.230	.640	1.752	.628	2.613
						9	.063	2.465	.230	.658	1.752	.612	2.606
						10	.056	2.583	.230	.641	1.844	.660	2.602
					105.25*	7	.155	2.522	.313	.412	1.121	.852	1.593
						8	.144	2.473	.313	.461	1.107	.751	1.571
						9	.136	2.507	.313	.482	1.107	.718	1.558
						10	.132	2.598	.313	.463	1.124	.760	1.557
					70.45*	6	.085	2.403	.229	.563	1.830	.744	2.640
						7	.084	2.408	.229	.567	1.830	.738	2.637
						10	.056	2.583	.229	.641	1.844	.659	2.602
						11	.067	2.357	.229	.690	1.655	.549	2.606
14X14	1.68 BOT	593.	2.47	1765.									
					87.85*	7	.151	2.472	.136	.383	1.959	.698	3.611
						8	.139	2.445	.136	.439	1.860	.578	3.567
						9	.133	2.477	.136	.457	1.860	.555	3.548
						10	.128	2.570	.136	.439	1.977	.615	3.543
					87.85*	6	.151	2.474	.136	.382	1.959	.698	3.612
						7	.151	2.472	.136	.383	1.959	.696	3.611
						10	.128	2.570	.136	.439	1.977	.613	3.543
						11	.134	2.373	.136	.492	1.741	.482	3.538
					70.45*	6	.116	2.422	.203	.475	1.830	.782	2.683
						7	.115	2.426	.203	.479	1.830	.777	2.682
						10	.090	2.564	.203	.541	1.844	.692	2.657
						11	.100	2.359	.203	.594	1.655	.566	2.659
14X14	1.68 BOT	622.	3.00	2405.									
					70.45*	7	.055	2.914	.247	.681	1.830	.664	2.623
						8	.040	2.937	.247	.759	1.752	.571	2.597
						9	.034	2.981	.247	.779	1.752	.556	2.590
						10	.027	3.142	.247	.769	1.844	.593	2.586
14X14	1.68 BOT	621.	3.00	2205.									
					70.45*	7	.091	2.958	.231	.613	1.830	.688	2.678
						8	.078	2.959	.231	.685	1.752	.590	2.660
						9	.072	2.994	.231	.702	1.752	.576	2.654
						10	.066	3.126	.231	.688	1.844	.618	2.651

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	604.	2.99	2010.									
					70.45*	7	.084	2.924	.235	.612	1.830	.702	2.667
						8	.071	2.936	.235	.687	1.752	.599	2.649
						9	.066	2.976	.235	.705	1.752	.583	2.644
						10	.060	3.111	.235	.690	1.844	.628	2.642
14X14	1.68 BOT	594.	2.99	2405.									
					70.45*	7	-.010	3.101	.294	.842	1.830	.639	2.508
						8	-.027	3.024	.294	.913	1.752	.565	2.462
						9	-.034	3.035	.294	.929	1.752	.555	2.447
						10	-.043	3.154	.294	.910	1.844	.596	2.435
14X14	1.68 BOT	594.	3.00	2210.									
					70.45*	7	.032	2.878	.275	.735	1.830	.685	2.578
						8	.016	2.945	.275	.829	1.752	.582	2.552
						9	.011	3.013	.275	.855	1.752	.564	2.546
						10	.003	3.219	.275	.852	1.844	.596	2.545
14X14	1.68 BOT	587.	3.02	1755.									
					87.85*	7	.117	3.007	.152	.479	1.959	.622	3.558
						8	.106	2.983	.152	.544	1.860	.520	3.516
						9	.101	3.024	.152	.565	1.860	.501	3.500
						10	.096	3.138	.152	.545	1.977	.552	3.498
14X14	1.68 BOT	569.	3.01	2005.									
					87.85*	7	.069	2.891	.195	.648	1.959	.588	3.350
						8	.055	2.907	.195	.729	1.860	.497	3.291
						9	.048	2.966	.195	.756	1.860	.479	3.270
						10	.042	3.112	.195	.738	1.977	.521	3.267
					70.45*	7	.020	2.941	.291	.782	1.830	.680	2.559
						8	.006	3.047	.291	.888	1.752	.573	2.538
						9	.001	3.070	.291	.908	1.752	.561	2.529
						10	-.007	3.199	.291	.888	1.844	.603	2.523
					87.85*	6	.070	2.892	.194	.645	1.959	.589	3.355
						7	.069	2.891	.194	.648	1.959	.586	3.350
						10	.042	3.112	.194	.738	1.977	.520	3.267
						11	.052	2.837	.194	.790	1.741	.428	3.265
					87.85	5	.045	2.987	.195	.766	1.860	.473	3.261
					*	6	.070	2.892	.195	.645	1.959	.591	3.355
						11	.052	2.837	.195	.790	1.741	.429	3.265
						12	.024	3.248	.195	.855	1.882	.428	3.208
14X14	1.68 BOT	558.	3.01	1745.									
					87.85*	7	.086	2.909	.185	.572	1.959	.634	3.426
						8	.073	2.924	.185	.651	1.860	.529	3.374
						9	.067	2.982	.185	.677	1.860	.509	3.355
						10	.062	3.108	.185	.656	1.977	.558	3.352
					87.85	5	.064	3.006	.185	.687	1.860	.501	3.348
					*	6	.087	2.910	.185	.570	1.959	.636	3.429
						11	.069	2.867	.185	.718	1.741	.449	3.346
						12	.045	3.224	.185	.767	1.882	.454	3.294
					87.85*	6	.087	2.910	.185	.570	1.959	.635	3.429
						7	.086	2.909	.185	.572	1.959	.632	3.426
						10	.062	3.108	.185	.656	1.977	.556	3.352
						11	.069	2.867	.185	.718	1.741	.448	3.346
14X14	1.68 BOT	548.	3.03	2405.									
					87.85	5	-.118	3.088	.214	1.118	1.860	.357	2.534
					*	6	-.089	3.162	.214	1.012	1.959	.415	2.676
						11	-.111	2.923	.214	1.146	1.741	.326	2.538
						12	-.147	3.136	.214	1.175	1.882	.343	2.425

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	547.	3.00	2210.									
					87.85	5	-.050	3.056	.215	1.011	1.860	.395	2.833
					*	6	-.022	3.126	.215	.903	1.959	.466	2.972
						11	-.043	2.894	.215	1.039	1.741	.360	2.836
						12	-.076	3.107	.215	1.074	1.882	.376	2.723
14X14	1.68 BOT	547.	2.96	2005.									
					87.85*	7	.041	2.773	.216	.705	1.959	.600	3.207
						8	.026	2.852	.216	.801	1.860	.501	3.150
						9	.018	2.950	.216	.836	1.860	.480	3.132
						10	.012	3.165	.216	.828	1.977	.515	3.140
14X14	1.68 BOT	528.	3.02	1760.									
					87.85*	7	.042	2.783	.213	.700	1.959	.597	3.211
						8	.028	2.876	.213	.797	1.860	.498	3.164
						9	.021	2.982	.213	.832	1.860	.477	3.152
						10	.016	3.189	.213	.817	1.977	.516	3.162
					87.85	5	.019	3.031	.213	.848	1.860	.468	3.147
					*	6	.043	2.783	.213	.697	1.959	.600	3.216
						11	.026	2.795	.213	.862	1.741	.431	3.139
						12	-.002	3.318	.213	.952	1.882	.422	3.098
14X14	1.68 BOT	532.	2.51	2405.									
					87.85	5	-.099	2.558	.216	.944	1.860	.425	2.519
					*	6	-.062	2.623	.216	.840	1.959	.503	2.693
						11	-.089	2.419	.216	.971	1.741	.387	2.530
						12	-.134	2.603	.216	1.005	1.882	.404	2.383
14X14	1.68 BOT	578.	2.01	2015.									
					105.25	6	.151	2.038	.291	.406	1.121	.802	1.550
					*	7	.153	2.029	.291	.403	1.121	.808	1.551
						10	.127	2.096	.291	.453	1.124	.721	1.508
						11	.130	1.938	.291	.510	1.091	.621	1.501
14X14	1.68 BOT	551.	1.99	2010.									
					105.25	6	.123	1.994	.328	.461	1.121	.799	1.492
					*	7	.124	1.984	.328	.458	1.121	.803	1.493
						10	.095	2.064	.328	.514	1.124	.718	1.447
						11	.099	1.918	.328	.579	1.091	.618	1.441
14X14	1.68 BOT	533.	2.01	2415.									
					70.45	5	-.131	2.047	.291	.879	1.752	.580	2.063
					*	6	-.090	2.089	.291	.774	1.830	.683	2.183
						11	-.119	1.936	.291	.907	1.655	.531	2.076
						12	-.169	2.081	.291	.935	1.769	.551	1.968
14X14	1.68 BOT	532.	2.00	2205.									
					87.85*	6	.035	1.901	.185	.595	1.959	.609	2.984
						7	.034	1.903	.185	.597	1.959	.607	2.979
						10	-.006	2.147	.185	.692	1.977	.529	2.850
						11	.008	1.916	.185	.739	1.741	.436	2.856
14X14	1.68 BOT	515.	2.04	2005.									
					105.25	6	.074	1.980	.378	.556	1.121	.762	1.403
					*	7	.073	1.971	.378	.555	1.121	.762	1.402
						10	.043	2.103	.378	.620	1.124	.685	1.364
						11	.051	1.934	.378	.686	1.091	.601	1.363

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	528.	2.00	1755.									
					105.25	6	.106	1.992	.320	.495	1.121	.725	1.462
					*	7	.107	1.980	.320	.492	1.121	.729	1.463
						10	.082	2.069	.320	.547	1.124	.658	1.425
						11	.085	1.927	.320	.624	1.091	.560	1.418
					105.25*	7	.107	1.980	.321	.492	1.121	.731	1.463
						8	.095	1.956	.321	.552	1.107	.644	1.438
						9	.086	1.996	.321	.574	1.107	.618	1.426
						10	.082	2.069	.321	.547	1.124	.659	1.425
14X14	1.68 BOT	535.	2.49	2200.									
					87.85*	6	.016	2.471	.215	.707	1.959	.596	3.028
						7	.015	2.477	.215	.710	1.959	.594	3.025
						10	-.022	2.642	.215	.803	1.977	.530	2.885
						11	-.009	2.411	.215	.859	1.741	.436	2.897
14X14	1.68 BOT	527.	2.51	2000.									
					87.85*	6	.035	2.357	.209	.672	1.959	.610	3.094
						7	.034	2.359	.209	.674	1.959	.608	3.090
						10	.001	2.702	.209	.787	1.977	.526	3.004
						11	.012	2.389	.209	.835	1.741	.437	2.994
14X14	1.68 BOT	504.	2.51	1755.									
					87.85*	6	.035	2.307	.209	.679	1.959	.602	3.086
						7	.034	2.309	.209	.681	1.959	.600	3.082
						10	.004	2.719	.209	.795	1.977	.519	3.024
						11	.015	2.366	.209	.847	1.741	.429	3.002
14X14	1.68 BOT	574.	1.56	2405.									
					87.85*	6	.089	1.518	.136	.440	1.959	.603	3.136
						7	.087	1.516	.136	.442	1.959	.601	3.127
						10	.045	1.624	.136	.505	1.977	.531	2.952
						11	.060	1.474	.136	.544	1.741	.435	2.976
					87.85*	7	.087	1.516	.136	.442	1.959	.602	3.127
						8	.065	1.513	.136	.500	1.860	.506	3.015
						9	.054	1.544	.136	.519	1.860	.488	2.971
						10	.045	1.624	.136	.505	1.977	.532	2.952
14X14	1.68 BOT	569.	1.52	2205.									
					105.25	6	.153	1.546	.263	.378	1.121	.780	1.503
					*	7	.154	1.539	.263	.376	1.121	.786	1.505
						10	.122	1.585	.263	.423	1.124	.699	1.448
						11	.126	1.468	.263	.476	1.091	.604	1.443
					105.25*	7	.154	1.539	.264	.376	1.121	.788	1.505
						8	.139	1.508	.264	.422	1.107	.693	1.472
						9	.127	1.530	.264	.441	1.107	.663	1.453
						10	.122	1.585	.264	.423	1.124	.701	1.448
14X14	1.68 BOT	562.	1.52	2005.									
					105.25	6	.154	1.546	.251	.392	1.121	.717	1.505
					*	7	.155	1.539	.251	.389	1.121	.722	1.507
						10	.126	1.585	.251	.435	1.124	.648	1.457
						11	.130	1.467	.251	.495	1.091	.553	1.451
					105.25*	7	.155	1.539	.251	.389	1.121	.724	1.507
						8	.142	1.508	.251	.437	1.107	.636	1.477
						9	.132	1.530	.251	.456	1.107	.610	1.461
						10	.126	1.585	.251	.435	1.124	.650	1.457
					87.85*	6	.121	1.500	.123	.445	1.959	.542	3.290
						7	.121	1.497	.123	.446	1.959	.540	3.285
						10	.086	1.576	.123	.502	1.977	.485	3.141
						11	.096	1.459	.123	.559	1.741	.383	3.149

SUMMARY OF CE CHF TESTS

CASE ARRAY	CASE APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	551.	1.51	1755.									
					105.25	6	.161	1.535	.240	.393	1.121	.685	1.517
					*	7	.162	1.527	.240	.390	1.121	.690	1.519
						10	.136	1.574	.240	.434	1.124	.623	1.475
						11	.140	1.456	.240	.503	1.091	.521	1.467
					105.25*	7	.162	1.527	.241	.390	1.121	.692	1.519
						8	.150	1.496	.241	.441	1.107	.605	1.492
						9	.141	1.519	.241	.458	1.107	.582	1.477
						10	.136	1.574	.241	.434	1.124	.624	1.475
14X14	1.68 BOT	540.	1.02	2405.									
					105.25	6	.145	1.053	.228	.326	1.121	.784	1.419
					*	7	.146	1.048	.228	.324	1.121	.789	1.421
						10	.103	1.064	.228	.371	1.124	.692	1.348
						11	.109	.993	.228	.415	1.091	.600	1.347
					105.25*	7	.146	1.048	.229	.324	1.121	.791	1.421
						8	.126	1.019	.229	.366	1.107	.693	1.379
						9	.111	1.030	.229	.385	1.107	.658	1.356
						10	.103	1.064	.229	.371	1.124	.693	1.348
14X14	1.68 BOT	519.	1.02	2205.									
					105.25	6	.136	1.052	.231	.376	1.121	.691	1.402
					*	7	.137	1.045	.231	.374	1.121	.695	1.403
						10	.097	1.062	.231	.420	1.124	.619	1.339
						11	.103	.995	.231	.476	1.091	.531	1.337
14X14	1.68 BOT	513.	1.02	2005.									
					105.25	6	.147	1.055	.225	.400	1.121	.631	1.423
					*	7	.149	1.046	.225	.397	1.121	.636	1.426
						10	.113	1.063	.225	.441	1.124	.573	1.365
						11	.116	.996	.225	.508	1.091	.484	1.359
14X14	1.68 BOT	510.	1.51	2410.									
					87.85*	6	-.004	1.574	.168	.569	1.959	.578	2.691
						7	-.005	1.574	.168	.570	1.959	.577	2.686
						10	-.057	1.599	.168	.635	1.977	.522	2.457
						11	-.039	1.457	.168	.686	1.741	.426	2.488
14X14	1.68 BOT	509.	1.50	2205.									
					105.25	6	.044	1.463	.303	.532	1.121	.637	1.309
					*	7	.045	1.455	.303	.531	1.121	.639	1.309
						10	.010	1.601	.303	.592	1.124	.574	1.277
						11	.019	1.427	.303	.650	1.091	.507	1.272
					87.85*	6	-.004	1.572	.149	.616	1.959	.473	2.693
						7	-.005	1.572	.149	.617	1.959	.472	2.689
						10	-.046	1.591	.149	.674	1.977	.436	2.505
						11	-.031	1.447	.149	.737	1.741	.351	2.520
14X14	1.68 BOT	484.	1.53	2015.									
					105.25	6	.106	1.470	.335	.468	1.121	.803	1.407
					*	7	.106	1.461	.335	.467	1.121	.805	1.407
						10	.073	1.579	.335	.523	1.124	.720	1.363
						11	.082	1.424	.335	.582	1.091	.629	1.361
14X14	1.68 BOT	501.	1.51	2195.									
					105.25	6	.023	1.481	.327	.567	1.121	.647	1.282
					*	7	.028	1.452	.327	.556	1.121	.660	1.287
						10	-.014	1.585	.327	.628	1.124	.585	1.248
						11	-.004	1.441	.327	.693	1.091	.515	1.247
14X14	1.68 BOT	483.	1.51	1765.									
					105.25*	6	.096	1.477	.311	.515	1.121	.678	1.391
						7	.096	1.473	.311	.516	1.121	.676	1.390
						10	.064	1.551	.311	.570	1.124	.614	1.347
						11	.072	1.440	.311	.643	1.091	.528	1.348

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
14X14	1.68 BOT	479.	2.01	2205.									
					105.25	6	-.001	2.103	.437	.683	1.121	.718	1.302
					*	7	.000	2.101	.437	.681	1.121	.720	1.303
						10	-.037	2.130	.437	.743	1.124	.661	1.260
						11	-.028	1.939	.437	.814	1.091	.587	1.257
14X14	1.68 BOT	473.	2.00	2015.									
					105.25	6	.035	1.903	.433	.622	1.121	.781	1.336
					*	7	.036	1.892	.433	.620	1.121	.784	1.336
						10	.001	2.163	.433	.710	1.124	.686	1.308
						11	.010	1.930	.433	.775	1.091	.610	1.303
14X14	1.68 BOT	457.	2.02	1750.									
					105.25	6	.039	1.882	.417	.643	1.121	.727	1.339
					*	7	.039	1.870	.417	.641	1.121	.728	1.339
						8	.010	2.185	.417	.778	1.107	.593	1.321
						11	.017	1.914	.417	.797	1.091	.570	1.311
14X14	1.68 BOT	473.	1.03	2405.									
					105.25	6	.047	1.025	.273	.433	1.121	.706	1.264
					*	7	.048	1.020	.273	.431	1.121	.709	1.264
						10	.000	1.115	.273	.494	1.124	.622	1.221
						11	.012	.991	.273	.539	1.091	.552	1.220
14X14	1.68 BOT	463.	1.02	2195.									
					105.25	6	.087	1.025	.274	.437	1.121	.702	1.317
					*	7	.087	1.019	.274	.437	1.121	.703	1.317
						10	.043	1.058	.274	.490	1.124	.628	1.263
						11	.055	.977	.274	.544	1.091	.549	1.267
14X14	1.68 BOT	457.	1.02	1995.									
					105.25*	6	.103	1.032	.267	.462	1.121	.646	1.343
						7	.102	1.027	.267	.463	1.121	.646	1.341
						10	.062	1.051	.267	.513	1.124	.584	1.286
						11	.073	.985	.267	.577	1.091	.504	1.291
14X14	1.68 BOT	406.	.99	2405.									
					87.85*	6	-.095	1.059	.153	.599	1.959	.500	2.101
						7	-.096	1.058	.153	.600	1.959	.499	2.098
						10	-.162	1.050	.153	.666	1.977	.454	1.874
						11	-.140	.961	.153	.726	1.741	.367	1.909
					105.25	6	-.016	1.062	.311	.510	1.121	.685	1.201
					*	7	-.014	1.060	.311	.507	1.121	.688	1.203
						10	-.068	1.052	.311	.561	1.124	.623	1.159
						11	-.048	.971	.311	.611	1.091	.556	1.167
14X14	1.68 BOT	385.	1.00	2225.									
					105.25	6	-.002	1.072	.320	.545	1.121	.658	1.215
					*	7	.000	1.070	.320	.543	1.121	.661	1.217
						8	-.050	1.064	.320	.643	1.107	.551	1.173
						11	-.039	.971	.320	.666	1.091	.524	1.173
14X14	1.68 BOT	369.	1.00	2005.									
					105.25	6	.029	.994	.323	.558	1.121	.649	1.239
					*	7	.031	.988	.323	.556	1.121	.652	1.239
						10	-.016	1.074	.323	.620	1.124	.586	1.202
						11	-.005	.981	.323	.694	1.091	.508	1.203
14X14	1.68 BOT	357.	.98	1755.									
					105.25*	6	.111	.969	.337	.507	1.121	.745	1.345
						7	.110	.964	.337	.509	1.121	.742	1.343
						10	.063	.997	.337	.570	1.124	.664	1.280
						11	.076	.944	.337	.643	1.091	.571	1.290

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	593.	2.01	2400.									
					114.96	6	.104	2.014	.401	.475	1.063	.897	1.197
						7	.107	2.001	.401	.470	1.063	.908	1.198
						10	.081	2.065	.401	.427	1.089	1.022	1.188
						* 11	.086	1.903	.401	.440	1.077	.981	1.186
16X16	1.46 SYM	588.	2.01	2195.									
					114.96	6	.124	2.008	.385	.456	1.063	.898	1.205
						7	.126	1.995	.385	.451	1.063	.907	1.206
						* 10	.103	2.053	.385	.410	1.089	1.023	1.197
						11	.108	1.894	.385	.427	1.077	.972	1.196
16X16	1.46 SYM	580.	2.02	2005.									
					114.96	6	.130	2.010	.374	.447	1.063	.891	1.208
						7	.132	1.997	.374	.443	1.063	.898	1.208
						* 10	.112	2.054	.374	.402	1.089	1.015	1.201
						11	.116	1.895	.374	.423	1.077	.954	1.199
					129.16	7	.158	1.981	.366	.392	.985	.918	1.117
						8	.174	1.899	.366	.336	.986	1.074	1.125
						* 9	.157	1.930	.366	.366	.986	.984	1.115
						10	.141	2.023	.366	.353	.990	1.025	1.107
					129.16	6	.154	1.997	.360	.400	.985	.886	1.115
						7	.158	1.981	.360	.392	.985	.903	1.117
						* 10	.141	2.023	.360	.353	.990	1.008	1.107
						11	.139	1.917	.360	.383	.987	.926	1.102
					129.16	5	.139	2.000	.360	.401	.986	.885	1.105
						6	.154	1.997	.360	.400	.985	.886	1.115
						* 11	.139	1.917	.360	.383	.987	.926	1.102
						12	.109	2.126	.360	.410	.990	.869	1.089
16X16	1.46 SYM	565.	2.00	2395.									
					114.96	6	.062	1.984	.457	.535	1.063	.907	1.177
						7	.066	1.963	.457	.526	1.063	.923	1.178
						10	.037	2.075	.457	.485	1.089	1.026	1.167
						* 11	.042	1.894	.457	.498	1.077	.988	1.164
16X16	1.46 SYM	562.	2.02	2195.									
					114.96	6	.080	2.007	.432	.532	1.063	.864	1.186
						7	.083	1.991	.432	.525	1.063	.875	1.187
						* 10	.058	2.081	.432	.479	1.089	.984	1.177
						11	.062	1.917	.432	.498	1.077	.935	1.175
16X16	1.46 SYM	552.	2.01	1995.									
					129.16	6	.118	1.985	.404	.470	.985	.847	1.091
						7	.122	1.947	.404	.460	.985	.864	1.092
						* 10	.103	2.013	.404	.414	.990	.965	1.082
						11	.102	1.924	.404	.449	.987	.888	1.078
16X16	1.46 SYM	527.	2.01	2395.									
					114.96	6	-.001	2.105	.524	.648	1.063	.859	1.149
						7	.003	2.076	.524	.638	1.063	.874	1.150
						* 10	-.029	2.121	.524	.574	1.089	.994	1.137
						11	.018	1.971	.524	.539	1.077	1.047	1.155
16X16	1.46 SYM	530.	1.99	2215.									
					114.96	6	.040	1.943	.495	.590	1.063	.892	1.165
						7	.045	1.913	.495	.579	1.063	.909	1.166
						* 10	.016	2.094	.495	.539	1.089	1.000	1.157
						11	.020	1.892	.495	.556	1.077	.958	1.153
					129.16	7	.082	1.937	.484	.520	.985	.916	1.066
						8	.106	1.831	.484	.439	.986	1.086	1.077
						* 9	.081	1.894	.484	.483	.986	.987	1.064
						10	.057	2.016	.484	.472	.990	1.015	1.054

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	521.	1.99	2005.									
					129.16	6	.080	1.959	.452	.543	.985	.821	1.065
						7	.084	1.932	.452	.531	.985	.839	1.067
					*	10	.063	2.010	.452	.478	.990	.936	1.057
						11	.061	1.923	.452	.518	.987	.862	1.053
					129.16	7	.084	1.932	.460	.531	.985	.853	1.067
					*	8	.106	1.829	.460	.452	.986	1.003	1.078
						9	.084	1.889	.460	.494	.986	.918	1.066
						10	.063	2.010	.460	.478	.990	.952	1.057
16X16	1.46 SYM	606.	2.45	2400.									
					114.96*	6	.128	2.452	.457	.487	1.063	.996	1.214
						7	.163	2.406	.457	.425	1.063	1.143	1.222
						10	.143	2.457	.457	.384	1.089	1.297	1.218
						11	.141	2.353	.457	.410	1.077	1.199	1.216
16X16	1.46 SYM	627.	2.97	2405.									
					114.96*	6	.160	2.977	.477	.491	1.063	1.033	1.225
						7	.162	2.963	.477	.486	1.063	1.044	1.225
						10	.141	3.032	.477	.443	1.089	1.174	1.222
						11	.145	2.790	.477	.447	1.077	1.148	1.222
					100.76	6	.149	2.960	.497	.511	1.101	1.072	1.228
					*	7	.123	2.941	.497	.557	1.101	.983	1.232
						10	.100	3.038	.497	.509	1.137	1.111	1.233
						11	.109	2.805	.497	.509	1.120	1.095	1.233
					100.76*	5	.106	2.935	.497	.549	1.114	1.009	1.233
						6	.149	2.960	.497	.511	1.101	1.072	1.228
						11	.109	2.805	.497	.509	1.120	1.095	1.233
						12	.091	3.057	.497	.527	1.136	1.071	1.233
16X16	1.46 SYM	620.	3.04	2200.									
					114.96*	6	.158	3.053	.455	.471	1.063	1.028	1.225
						7	.159	3.040	.455	.467	1.063	1.038	1.225
						10	.141	3.108	.455	.426	1.089	1.165	1.223
						11	.144	2.864	.455	.437	1.077	1.122	1.222
16X16	1.46 SYM	603.	3.00	2015.									
					114.96*	6	.139	2.997	.447	.475	1.063	1.000	1.222
						7	.140	2.983	.447	.470	1.063	1.010	1.222
						10	.124	3.056	.447	.429	1.089	1.134	1.219
						11	.127	2.817	.447	.446	1.077	1.079	1.217

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	595.	2.97	2415.									
					114.96*	6	.096	2.957	.575	.610	1.063	1.002	1.209
						7	.099	2.938	.575	.603	1.063	1.014	1.210
						10	.073	3.052	.575	.554	1.089	1.131	1.202
						11	.078	2.813	.575	.560	1.077	1.106	1.200
					100.76*	5	.034	2.945	.599	.678	1.114	.984	1.223
						6	.050	2.907	.599	.689	1.101	.957	1.227
						11	.034	2.808	.599	.631	1.120	1.064	1.222
						12	.011	3.147	.599	.669	1.136	1.017	1.219
					100.76	6	.050	2.907	.599	.689	1.101	.957	1.227
						* 7	.052	2.892	.599	.682	1.101	.967	1.227
						10	.025	3.091	.599	.637	1.137	1.068	1.222
						11	.034	2.808	.599	.631	1.120	1.064	1.222
					114.96	5	.078	2.960	.575	.603	1.072	1.022	1.202
						* 6	.096	2.957	.575	.610	1.063	1.002	1.209
						11	.024	2.817	.575	.649	1.077	.954	1.176
						12	.048	3.156	.575	.611	1.089	1.025	1.193
					129.16*	5	.107	2.964	.552	.551	.986	.988	1.109
						6	.127	2.949	.552	.552	.985	.986	1.121
						11	.108	2.852	.552	.516	.987	1.055	1.107
						12	.071	3.156	.552	.573	.990	.955	1.090
16X16	1.46 SYM	595.	3.04	2205.									
					114.96	6	.110	3.029	.524	.580	1.063	.961	1.214
						* 7	.112	3.010	.524	.573	1.063	.973	1.215
						10	.091	3.015	.524	.514	1.089	1.111	1.208
						11	.095	2.867	.524	.534	1.077	1.057	1.208
16X16	1.46 SYM	599.	2.50	2200.									
					114.96	6	.125	2.496	.432	.493	1.063	.933	1.213
						7	.127	2.481	.432	.487	1.063	.943	1.214
						10	.107	2.552	.432	.443	1.089	1.063	1.208
						* 11	.111	2.352	.432	.457	1.077	1.019	1.206
16X16	1.46 SYM	591.	2.55	2015.									
					114.96	6	.131	2.536	.426	.468	1.063	.968	1.216
						* 7	.133	2.521	.426	.464	1.063	.978	1.216
						10	.115	2.589	.426	.422	1.089	1.100	1.211
						11	.119	2.388	.426	.440	1.077	1.043	1.210
16X16	1.46 SYM	570.	3.03	2000.									
					114.96	6	.083	3.003	.527	.622	1.063	.900	1.205
						7	.085	2.981	.527	.616	1.063	.909	1.205
						* 10	.065	3.102	.527	.563	1.089	1.019	1.199
						11	.069	2.865	.527	.579	1.077	.978	1.197
16X16	1.46 SYM	559.	2.96	2410.									
					114.96	6	.024	2.931	.657	.742	1.063	.941	1.178
						7	.028	2.896	.657	.729	1.063	.958	1.179
						10	-.001	3.157	.657	.690	1.089	1.037	1.171
						* 11	.004	2.846	.657	.688	1.077	1.028	1.167
					129.16	1	.049	2.842	.514	.602	.987	.844	1.070
						2	.027	3.024	.514	.703	.986	.721	1.061
						7	.065	2.886	.514	.659	.985	.769	1.081
						* 8	.088	2.734	.514	.553	.986	.916	1.092
16X16	1.46 SYM	546.	3.00	2200.									
					114.96	6	.037	2.926	.655	.731	1.063	.952	1.184
						* 7	.041	2.884	.655	.716	1.063	.972	1.185
						10	.015	3.148	.655	.678	1.089	1.052	1.178
						11	.019	2.849	.655	.683	1.077	1.032	1.175

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	538.	2.97	2000.									
					114.96	6	.046	2.891	.612	.708	1.063	.920	1.187
						7	.049	2.849	.612	.693	1.063	.939	1.188
						10	.027	3.085	.612	.650	1.089	1.026	1.182
						* 11	.030	2.808	.612	.663	1.077	.994	1.179
16X16	1.46 SYM	539.	2.49	2415.									
					114.96	6	.007	2.550	.618	.705	1.063	.933	1.163
						7	.011	2.514	.618	.692	1.063	.950	1.164
						10	-.020	2.635	.618	.635	1.089	1.061	1.152
						* 11	-.015	2.397	.618	.643	1.077	1.036	1.150
16X16	1.46 SYM	533.	2.49	1995.									
					114.96*	6	.081	2.434	.583	.576	1.063	1.077	1.195
						7	.084	2.410	.583	.567	1.063	1.093	1.196
						10	.058	2.549	.583	.529	1.089	1.202	1.187
						11	.063	2.360	.583	.549	1.077	1.144	1.186
16X16	1.46 SYM	528.	2.48	2000.									
					114.96	6	.048	2.408	.556	.647	1.063	.913	1.180
						7	.052	2.370	.556	.634	1.063	.932	1.181
						10	.028	2.577	.556	.591	1.089	1.025	1.173
						* 11	.032	2.344	.556	.609	1.077	.982	1.170
					129.16	5	.059	2.486	.534	.589	.986	.894	1.067
						6	.077	2.436	.534	.584	.985	.901	1.078
						* 11	.060	2.395	.534	.558	.987	.944	1.066
						12	.026	2.743	.534	.612	.990	.863	1.055
16X16	1.46 SYM	529.	3.00	2415.									
					100.76	6	-.083	3.000	.776	.958	1.101	.892	1.184
						7	-.083	3.095	.776	.981	1.101	.871	1.185
						10	-.115	3.126	.776	.870	1.137	1.014	1.173
						* 11	-.102	2.868	.776	.867	1.120	1.004	1.174
					100.76	5	-.103	3.033	.776	.938	1.114	.922	1.176
						6	-.083	3.000	.776	.958	1.101	.892	1.184
						* 11	-.102	2.868	.776	.867	1.120	1.004	1.174
						12	-.134	3.081	.776	.894	1.136	.987	1.165
					72.36	7	-.234	3.145	.934	1.292	1.032	.746	1.039
						8	-.211	3.010	.934	1.124	1.035	.860	1.040
						9	-.226	3.017	.934	1.154	1.035	.837	1.039
						* 10	-.264	3.153	.934	1.120	1.040	.867	1.036
					114.96	6	-.025	3.119	.745	.874	1.063	.907	1.159
						7	-.022	3.112	.745	.867	1.063	.914	1.160
						10	-.053	3.145	.745	.773	1.089	1.050	1.147
						* 11	-.048	2.859	.745	.774	1.077	1.036	1.144
					129.16	5	-.048	3.048	.716	.842	.986	.838	1.026
						6	-.025	3.119	.716	.874	.985	.807	1.036
						* 11	-.048	2.859	.716	.774	.987	.912	1.023
						12	-.089	3.115	.716	.828	.990	.855	1.012
					114.96	5	-.011	3.073	.745	.780	1.072	1.024	1.165
						* 6	.014	3.005	.745	.775	1.063	1.022	1.175
						11	-.009	2.944	.745	.726	1.077	1.105	1.163
						12	-.059	3.145	.745	.784	1.089	1.035	1.144

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	567.	1.97	2400.									
					114.96	6	.078	1.958	.459	.508	1.063	.960	1.183
						* 7	.081	1.941	.459	.501	1.063	.974	1.185
						10	.051	2.033	.459	.461	1.089	1.083	1.172
						11	.056	1.869	.459	.475	1.077	1.040	1.171
					114.96	5	.055	1.970	.459	.506	1.072	.972	1.173
						6	.078	1.958	.459	.508	1.063	.960	1.183
						11	.056	1.869	.459	.475	1.077	1.040	1.171
						* 12	.021	2.144	.459	.513	1.089	.974	1.161
16X16	1.46 SYM	567.	2.02	2195.									
					114.96	6	.107	2.005	.444	.484	1.063	.976	1.198
						* 7	.110	1.990	.444	.479	1.063	.987	1.199
						10	.084	2.067	.444	.440	1.089	1.101	1.189
						11	.089	1.910	.444	.457	1.077	1.048	1.188
					129.16	6	.137	1.999	.427	.432	.985	.974	1.104
						* 7	.143	1.970	.427	.420	.985	1.001	1.107
						10	.121	2.030	.427	.383	.990	1.104	1.094
						11	.118	1.933	.427	.413	.987	1.019	1.089
					114.96*	5	.088	2.008	.444	.483	1.072	.987	1.190
						6	.107	2.005	.444	.484	1.063	.976	1.198
						11	.089	1.910	.444	.457	1.077	1.048	1.188
						12	.059	1.147	.444	.401	1.089	1.207	1.147
16X16	1.46 SYM	584.	1.51	2395.									
					129.16	6	.156	1.537	.329	.356	.985	.911	1.099
						7	.164	1.521	.329	.344	.985	.944	1.105
						10	.141	1.550	.329	.312	.990	1.045	1.090
						* 11	.136	1.474	.329	.338	.987	.961	1.083
					114.96	6	.121	1.540	.343	.402	1.063	.906	1.193
						7	.127	1.527	.343	.393	1.063	.929	1.195
						10	.098	1.570	.343	.361	1.089	1.036	1.182
						* 11	.099	1.449	.343	.380	1.077	.972	1.179
					129.16*	7	.164	1.521	.335	.344	.985	.960	1.105
						8	.190	1.455	.335	.285	.986	1.160	1.120
						9	.165	1.486	.335	.317	.986	1.043	1.104
						10	.141	1.550	.335	.312	.990	1.062	1.090
					114.96	5	.097	1.536	.343	.405	1.072	.908	1.181
						6	.121	1.540	.343	.402	1.063	.906	1.193
						* 11	.099	1.449	.343	.380	1.077	.972	1.179
						12	.067	1.603	.343	.399	1.089	.937	1.168
16X16	1.46 SYM	572.	1.54	2200.									
					129.16	6	.151	1.565	.329	.383	.985	.848	1.097
						7	.158	1.549	.329	.371	.985	.876	1.102
						* 10	.137	1.580	.329	.335	.990	.973	1.088
						11	.133	1.497	.329	.365	.987	.891	1.082
					129.16	7	.158	1.549	.335	.371	.985	.890	1.102
						8	.182	1.480	.335	.311	.986	1.062	1.115
						9	.160	1.510	.335	.343	.986	.964	1.101
						* 10	.137	1.580	.335	.335	.990	.990	1.088

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	561.	1.56	2000.									
					129.16	6	.151	1.585	.326	.398	.985	.806	1.098
						7	.158	1.567	.326	.386	.985	.832	1.102
						* 10	.138	1.585	.326	.347	.990	.930	1.090
						11	.135	1.517	.326	.381	.987	.844	1.084
					129.16	7	.158	1.567	.331	.386	.985	.846	1.102
						* 8	.179	1.496	.331	.327	.986	.998	1.114
						9	.159	1.527	.331	.358	.986	.913	1.101
						11	.135	1.517	.331	.381	.987	.858	1.084
16X16	1.46 SYM	523.	1.01	2200.									
					129.16	6	.129	1.031	.281	.383	.985	.721	1.057
						7	.139	1.019	.281	.371	.985	.745	1.062
						* 10	.112	1.036	.281	.335	.990	.829	1.047
						11	.107	.985	.281	.368	.987	.753	1.041
					129.16	7	.139	1.019	.285	.371	.985	.758	1.062
						8	.139	.977	.285	.344	.986	.817	1.059
						9	.140	.992	.285	.343	.986	.820	1.061
						* 10	.112	1.036	.285	.335	.990	.843	1.047
16X16	1.46 SYM	487.	1.02	2405.									
					129.16	6	.083	1.027	.338	.393	.985	.846	1.031
						7	.094	1.015	.338	.380	.985	.875	1.036
						* 10	.059	1.043	.338	.349	.990	.957	1.021
						11	.058	.988	.338	.375	.987	.888	1.019
					129.16	7	.094	1.015	.343	.380	.985	.889	1.036
						8	.131	.965	.343	.311	.986	1.088	1.054
						9	.096	.985	.343	.350	.986	.968	1.035
						* 10	.059	1.043	.343	.349	.990	.973	1.021
16X16	1.46 SYM	470.	1.01	2195.									
					129.16	6	.080	1.019	.329	.446	.985	.728	1.029
						7	.089	1.003	.329	.433	.985	.750	1.033
						* 10	.059	1.031	.329	.392	.990	.833	1.021
						11	.058	.978	.329	.423	.987	.769	1.018
16X16	1.46 SYM	465.	1.01	2005.									
					129.16	6	.104	1.020	.325	.459	.985	.698	1.041
						7	.113	1.006	.325	.446	.985	.718	1.046
						* 10	.085	1.029	.325	.401	.990	.802	1.032
						11	.080	.986	.325	.441	.987	.727	1.028
16X16	1.46 SYM	519.	1.53	2405.									
					114.96	7	.036	1.495	.448	.507	1.063	.940	1.149
						8	.071	1.398	.448	.419	1.072	1.145	1.163
						* 9	.033	1.455	.448	.472	1.072	1.018	1.146
						10	-.001	1.649	.448	.477	1.089	1.023	1.137
					129.16	6	.075	1.528	.430	.460	.985	.921	1.048
						7	.084	1.505	.430	.445	.985	.954	1.052
						10	.053	1.565	.430	.407	.990	1.046	1.038
						* 11	.052	1.482	.430	.435	.987	.976	1.034
					129.16	7	.084	1.505	.438	.445	.985	.970	1.052
						8	.118	1.419	.438	.367	.986	1.176	1.069
						9	.086	1.466	.438	.409	.986	1.055	1.052
						* 11	.052	1.432	.438	.435	.987	.992	1.034

SUMMARY OF CE CHF TESTS

CASE		INLET			CONDITIONS AT CHF								
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	501.	1.52	2205.									
					129.16	6	.071	1.512	.425	.498	.985	.840	1.045
						7	.080	1.487	.425	.483	.985	.867	1.049
						* 10	.052	1.552	.425	.439	.990	.958	1.037
						11	.051	1.472	.425	.471	.987	.889	1.033
					129.16	7	.080	1.487	.432	.483	.985	.881	1.049
						8	.112	1.400	.432	.401	.986	1.062	1.064
						9	.081	1.450	.432	.446	.986	.954	1.048
						* 10	.052	1.552	.432	.439	.990	.974	1.037
16X16	1.46 SYM	489.	1.53	2005.									
					129.16	6	.062	1.518	.406	.545	.985	.735	1.041
						7	.069	1.492	.406	.531	.985	.754	1.043
						* 10	.045	1.545	.406	.475	.990	.846	1.033
						11	.045	1.480	.406	.513	.987	.781	1.031
16X16	1.46 SYM	506.	1.98	2415.									
					114.96	6	-.031	2.075	.566	.684	1.063	.880	1.135
						7	-.024	2.069	.566	.673	1.063	.895	1.138
						10	-.059	2.087	.566	.603	1.089	1.024	1.123
						* 11	-.055	1.891	.566	.619	1.077	.985	1.120
16X16	1.46 SYM	502.	1.96	2215.									
					114.96	6	.001	2.055	.543	.671	1.063	.861	1.149
						7	.011	1.995	.543	.646	1.063	.894	1.152
						* 10	-.021	2.086	.543	.591	1.089	1.002	1.140
						11	-.018	1.891	.543	.611	1.077	.957	1.136
					129.16	6	.045	1.938	.522	.581	.985	.885	1.045
						7	.054	1.895	.522	.561	.985	.916	1.049
						* 10	.027	2.014	.522	.514	.990	1.006	1.038
						11	.026	1.905	.522	.549	.987	.939	1.035
16X16	1.46 SYM	483.	1.99	2005.									
					129.16	6	.049	1.959	.516	.602	.985	.844	1.048
						7	.057	1.916	.516	.583	.985	.873	1.051
						* 10	.033	2.032	.516	.530	.990	.964	1.041
						11	.031	1.928	.516	.570	.987	.894	1.038
16X16	1.46 SYM	461.	1.96	2405.									
					114.96	6	-.083	2.053	.643	.761	1.063	.898	1.113
						7	-.075	2.047	.643	.748	1.063	.914	1.116
						10	-.115	2.062	.643	.671	1.089	1.044	1.102
						* 11	-.110	1.868	.643	.689	1.077	1.004	1.099
					129.16	7	-.021	2.019	.628	.661	.985	.935	1.018
						8	.013	1.882	.628	.551	.986	1.123	1.028
						* 9	-.020	1.967	.628	.608	.986	1.018	1.018
						10	-.054	2.036	.628	.591	.990	1.052	1.008
16X16	1.46 SYM	460.	1.98	2215.									
					114.96	6	-.044	2.075	.624	.754	1.063	.881	1.129
						7	-.038	2.069	.624	.741	1.063	.896	1.132
						10	-.072	2.084	.624	.665	1.089	1.022	1.118
						* 11	-.069	1.886	.624	.686	1.077	.980	1.115
16X16	1.46 SYM	457.	1.98	2005.									
					129.16	6	.021	1.967	.570	.657	.985	.854	1.034
						7	.032	1.899	.570	.629	.985	.892	1.037
						* 10	.006	2.091	.570	.580	.990	.972	1.030
						11	.004	1.970	.570	.621	.987	.905	1.027
					129.16	5	.000	2.067	.570	.662	.986	.849	1.027
						6	.021	1.967	.570	.657	.985	.854	1.034
						* 11	.004	1.970	.570	.621	.987	.905	1.027
						12	-.028	2.091	.570	.638	.990	.884	1.017

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z		CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	535.	2.83	2405.										
					114.96		6	-.008	2.964	.704	.810	1.063	.925	1.164
							7	-.001	2.951	.704	.794	1.063	.943	1.167
							10	-.032	2.987	.704	.712	1.089	1.077	1.153
						*	11	-.029	2.716	.704	.720	1.077	1.053	1.150
16X16	1.46 SYM	521.	2.85	2210.										
					114.96		6	.000	2.998	.696	.826	1.063	.896	1.168
							7	.007	2.926	.696	.798	1.063	.926	1.170
							10	-.021	3.020	.696	.727	1.089	1.042	1.159
						*	11	-.018	2.744	.696	.738	1.077	1.015	1.155
					114.96		5	-.021	2.927	.696	.804	1.072	.928	1.157
							6	.000	2.998	.696	.826	1.063	.896	1.168
						*	11	-.018	2.744	.696	.738	1.077	1.015	1.155
							12	-.049	2.971	.696	.773	1.089	.980	1.145
					129.16		5	.016	2.927	.668	.727	.986	.906	1.053
							6	.037	2.817	.668	.715	.985	.921	1.062
						*	11	.020	2.779	.668	.671	.987	.982	1.052
							12	-.009	3.096	.668	.718	.990	.921	1.044
16X16	1.46 SYM	510.	2.87	2000.										
					114.96		6	.014	2.915	.676	.794	1.063	.906	1.173
							7	.020	2.831	.676	.766	1.063	.938	1.175
							10	-.004	3.074	.676	.719	1.089	1.025	1.167
						*	11	-.003	2.798	.676	.737	1.077	.989	1.163
					129.16		5	.027	2.924	.650	.709	.986	.903	1.059
							6	.046	2.829	.650	.699	.985	.916	1.068
						*	11	.031	2.777	.650	.657	.987	.976	1.058
							12	.007	3.191	.650	.711	.990	.904	1.053
					129.16		6	.046	2.829	.650	.699	.985	.916	1.068
							7	.053	2.771	.650	.675	.985	.949	1.071
							10	.032	2.932	.650	.619	.990	1.039	1.062
						*	11	.031	2.777	.650	.657	.987	.976	1.058
16X16	1.46 SYM	425.	.99	2405.										
					129.16		6	.040	.987	.391	.437	.985	.882	1.012
							7	.054	.965	.391	.419	.985	.920	1.016
						*	10	.013	1.032	.391	.392	.990	.988	1.005
							11	.010	.971	.391	.421	.987	.917	1.003
					129.16		7	.054	.965	.398	.419	.985	.935	1.016
							8	.095	.901	.398	.342	.986	1.148	1.031
							9	.054	.940	.398	.387	.986	1.012	1.015
						*	10	.013	1.032	.398	.392	.990	1.005	1.005
					114.96		6	-.028	1.054	.407	.522	1.063	.829	1.105
							7	-.018	1.051	.407	.511	1.063	.847	1.108
							10	.016	1.022	.407	.387	1.089	1.145	1.121
						*	11	-.060	.947	.407	.487	1.077	.900	1.089
					129.16		5	.004	1.029	.391	.450	.986	.856	1.003
							6	.040	.987	.391	.437	.985	.882	1.012
						*	11	.010	.971	.391	.421	.987	.917	1.003
							12	-.040	1.049	.391	.443	.990	.873	.994
16X16	1.46 SYM	422.	1.01	2190.										
					129.16		6	.036	1.003	.371	.500	.985	.732	1.011
							7	.048	.981	.371	.484	.985	.756	1.014
						*	10	.013	1.054	.371	.442	.990	.832	1.006
							11	.011	.992	.371	.477	.987	.768	1.004

SUMMARY OF CE CHF TESTS

CASE ARRAY	CASE APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	CONDITIONS AT CHF G	CONDITIONS AT CHF HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	415.	1.01	2415.									
					129.16	6	.015	1.030	.403	.468	.985	.848	1.006
						7	.028	1.002	.403	.449	.985	.883	1.009
						* 10	-.012	1.065	.403	.416	.990	.957	1.000
						11	-.014	.994	.403	.445	.987	.892	.998
					129.16	7	.028	1.002	.409	.449	.985	.898	1.009
						8	.072	.928	.409	.366	.986	1.102	1.021
						* 9	.029	.973	.409	.414	.986	.974	1.008
						10	-.012	1.065	.409	.416	.990	.973	1.000
					114.96	6	-.053	1.072	.419	.550	1.063	.810	1.096
						7	-.044	1.070	.419	.539	1.063	.826	1.099
						* 10	-.091	1.064	.419	.490	1.089	.932	1.084
						11	-.086	.962	.419	.511	1.077	.882	1.081
					129.16	5	-.021	1.044	.403	.476	.986	.835	.998
						6	.015	1.030	.403	.468	.985	.848	1.006
						* 11	-.014	.994	.403	.445	.987	.892	.998
						12	-.065	1.049	.403	.464	.990	.858	.991
16X16	1.46 SYM	405.	1.02	2015.									
					129.16	6	.059	1.010	.385	.516	.985	.735	1.020
						7	.070	.991	.385	.501	.985	.758	1.024
						* 10	.037	1.031	.385	.453	.990	.842	1.013
						11	.036	.989	.385	.491	.987	.774	1.011
16X16	1.46 SYM	395.	1.02	1755.									
					129.16	6	.104	1.014	.390	.515	.985	.745	1.041
						7	.114	.999	.390	.501	.985	.766	1.046
						* 10	.084	1.030	.390	.451	.990	.856	1.032
						11	.079	.993	.390	.497	.987	.774	1.028
16X16	1.46 SYM	387.	1.02	1755.									
					129.16	6	.104	1.012	.400	.515	.985	.766	1.041
						7	.114	.995	.400	.501	.985	.787	1.046
						* 10	.083	1.029	.400	.451	.990	.878	1.031
						11	.079	.991	.400	.498	.987	.794	1.028
					129.16	7	.114	.995	.407	.501	.985	.801	1.046
						* 8	.150	.937	.407	.423	.986	.950	1.064
						9	.116	.967	.407	.466	.986	.861	1.045
						10	.083	1.029	.407	.451	.990	.893	1.031
16X16	1.46 SYM	432.	2.00	1755.									
					129.16	6	.022	1.969	.571	.684	.985	.822	1.035
						7	.031	1.891	.571	.660	.985	.853	1.037
						* 10	.008	2.129	.571	.605	.990	.934	1.032
						11	.006	1.999	.571	.652	.987	.864	1.028
16X16	1.46 SYM	471.	1.97	1755.									
					129.16	6	.051	1.932	.493	.618	.985	.786	1.048
						7	.058	1.890	.493	.600	.985	.810	1.051
						* 10	.037	2.004	.493	.540	.990	.904	1.043
						11	.037	1.905	.493	.583	.987	.834	1.040
16X16	1.46 SYM	497.	2.00	1755.									
					129.16	6	.080	1.986	.464	.554	.985	.825	1.066
						7	.087	1.952	.464	.537	.985	.851	1.070
						* 10	.067	2.032	.464	.484	.990	.949	1.060
						11	.064	1.949	.464	.530	.987	.864	1.056
16X16	1.46 SYM	504.	2.40	1745.									
					129.16	6	.072	2.376	.517	.588	.985	.867	1.073
						7	.078	2.337	.517	.570	.985	.894	1.075
						* 10	.060	2.438	.517	.516	.990	.993	1.067
						11	.057	2.333	.517	.562	.987	.909	1.063

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	511.	2.88	2205.									
					114.96	6	-.012	3.018	.726	.859	1.063	.898	1.163
						7	-.007	3.008	.726	.844	1.063	.914	1.165
						10	-.035	3.040	.726	.757	1.089	1.044	1.153
						* 11	-.032	2.761	.726	.768	1.077	1.018	1.149
16X16	1.46 SYM	501.	3.01	2010.									
					114.96	6	.000	3.166	.732	.871	1.063	.893	1.171
						7	.006	3.134	.732	.851	1.063	.915	1.173
						10	-.019	3.186	.732	.769	1.089	1.036	1.162
						* 11	-.017	2.894	.732	.783	1.077	1.007	1.158
					129.16	5	.014	3.117	.703	.770	.986	.901	1.056
						6	.034	2.956	.703	.748	.985	.926	1.063
						* 11	.018	2.944	.703	.708	.987	.980	1.055
						12	-.008	3.267	.703	.758	.990	.918	1.047
16X16	1.46 SYM	482.	2.96	1755.									
					114.96	6	.008	3.101	.699	.842	1.063	.883	1.174
						7	.013	2.991	.699	.811	1.063	.917	1.174
						* 10	-.009	3.159	.699	.752	1.089	1.013	1.167
						11	-.007	2.869	.699	.772	1.077	.976	1.163
					129.16	6	.037	2.889	.672	.723	.985	.915	1.064
						7	.044	2.812	.672	.695	.985	.952	1.066
						* 10	.025	3.035	.672	.643	.990	1.034	1.060
						11	.024	2.879	.672	.687	.987	.964	1.056
					129.16	5	.020	3.039	.672	.743	.986	.891	1.057
						6	.037	2.889	.672	.723	.985	.915	1.064
						* 11	.024	2.879	.672	.687	.987	.964	1.056
						12	.001	3.305	.672	.742	.990	.896	1.052
					114.96	5	-.009	3.057	.699	.833	1.072	.899	1.165
						6	.008	3.101	.699	.842	1.063	.883	1.174
						* 11	-.007	2.869	.699	.772	1.077	.976	1.163
						12	-.031	3.093	.699	.805	1.089	.946	1.155
16X16	1.46 SYM	528.	2.02	1755.									
					114.96	7	.096	1.995	.447	.519	1.063	.915	1.193
						8	.118	1.869	.447	.439	1.072	1.092	1.200
						* 9	.095	1.941	.447	.486	1.072	.986	1.191
						10	.074	2.085	.447	.474	1.089	1.028	1.185
					129.16	7	.122	2.004	.429	.459	.985	.922	1.094
						8	.142	1.902	.429	.389	.986	1.089	1.104
						* 9	.123	1.955	.429	.427	.986	.992	1.093
						10	.104	2.063	.429	.414	.990	1.027	1.084
					129.16	6	.116	2.031	.422	.474	.985	.878	1.090
						7	.122	2.004	.422	.459	.985	.907	1.094
						10	.074	2.085	.422	.474	.990	.882	1.065
						* 11	.100	1.967	.422	.458	.987	.911	1.078
16X16	1.46 SYM	527.	3.06	1755.									
					114.96	6	.054	3.007	.595	.682	1.063	.929	1.193
						7	.058	2.959	.595	.664	1.063	.953	1.194
						10	.039	3.153	.595	.617	1.089	1.051	1.188
						* 11	.041	2.913	.595	.644	1.077	.996	1.186
					114.96	5	.038	3.081	.595	.691	1.072	.924	1.187
						6	.054	3.007	.595	.682	1.063	.929	1.193
						* 11	.041	2.913	.595	.644	1.077	.996	1.186
						12	.021	3.363	.595	.691	1.089	.938	1.184

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	559.	1.96	1755.									
					114.96*	7	.141	1.974	.392	.418	1.063	.997	1.211
						8	.160	1.865	.392	.353	1.072	1.191	1.216
						9	.140	1.917	.392	.392	1.072	1.070	1.210
						10	.121	2.032	.392	.383	1.089	1.115	1.204
					114.96	6	.136	1.995	.385	.428	1.063	.957	1.210
						7	.141	1.974	.385	.418	1.063	.981	1.211
						10	.121	2.032	.385	.383	1.089	1.097	1.204
					*	11	.120	1.881	.385	.418	1.077	.994	1.201
16X16	1.46 SYM	551.	2.97	1760.									
					114.96	6	.087	2.986	.528	.575	1.063	.976	1.206
					*	7	.091	2.952	.528	.560	1.063	1.001	1.207
						10	.073	3.070	.528	.518	1.089	1.111	1.202
						11	.073	2.855	.528	.550	1.077	1.033	1.199
					114.96*	7	.091	2.952	.537	.560	1.063	1.018	1.207
						8	.109	2.775	.537	.466	1.072	1.233	1.211
						9	.090	2.875	.537	.523	1.072	1.101	1.206
						10	.073	3.070	.537	.518	1.089	1.129	1.202
					114.96	5	.072	3.014	.528	.583	1.072	.970	1.201
					*	6	.087	2.986	.528	.575	1.063	.976	1.206
						11	.073	2.855	.528	.550	1.077	1.033	1.199
						12	.073	3.190	.528	.524	1.089	1.096	1.204
16X16	1.46 SYM	576.	1.98	1755.									
					114.96*	6	.155	2.026	.356	.383	1.063	.990	1.216
						7	.160	2.007	.356	.373	1.063	1.015	1.218
						10	.141	2.059	.356	.342	1.089	1.134	1.213
						11	.141	1.929	.356	.375	1.077	1.023	1.210
					114.96*	7	.160	2.007	.362	.373	1.063	1.032	1.218
						8	.177	1.901	.362	.316	1.072	1.228	1.221
						9	.159	1.948	.362	.352	1.072	1.104	1.217
						10	.141	2.059	.362	.342	1.089	1.153	1.213
16X16	1.46 SYM	578.	2.63	1745.									
					114.96*	7	.131	2.661	.418	.431	1.063	1.030	1.217
						8	.146	2.523	.418	.364	1.072	1.230	1.220
						9	.130	2.586	.418	.405	1.072	1.106	1.216
						10	.115	2.732	.418	.395	1.089	1.151	1.213
16X16	1.46 SYM	588.	3.00	1750.									
					114.96*	7	.140	3.045	.441	.404	1.063	1.159	1.222
						8	.154	2.892	.441	.338	1.072	1.397	1.224
						9	.139	2.959	.441	.380	1.072	1.245	1.221
						10	.125	3.119	.441	.374	1.089	1.283	1.220
					100.76*	7	.111	3.002	.459	.496	1.101	1.019	1.233
						8	.125	3.855	.459	.433	1.114	1.183	1.228
						9	.109	2.942	.459	.467	1.114	1.095	1.233
						10	.095	3.102	.459	.457	1.137	1.142	1.233
					100.76*	5	.100	3.076	.452	.501	1.114	1.004	1.233
						6	.109	3.020	.452	.504	1.101	.986	1.233
						11	.098	2.893	.452	.483	1.120	1.049	1.233
						12	.081	3.159	.452	.500	1.136	1.027	1.232
					114.96*	6	.136	3.070	.434	.415	1.063	1.110	1.222
						7	.140	3.045	.434	.404	1.063	1.140	1.222
						10	.125	3.119	.434	.374	1.089	1.262	1.220
						11	.125	2.879	.434	.405	1.077	1.154	1.218

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.46 SYM	482.	1.50	1750.									
					129.16	6	.103	1.510	.399	.504	.985	.781	1.063
						7	.111	1.474	.399	.489	.985	.803	1.067
						* 10	.088	1.525	.399	.440	.990	.899	1.055
						11	.083	1.467	.399	.487	.987	.809	1.050
16X16	1.46 SYM	333.	1.04	1755.									
					114.96	7	.014	1.070	.479	.651	1.063	.782	1.122
						* 8	.053	.900	.479	.553	1.072	.928	1.131
						9	.012	1.042	.479	.610	1.072	.841	1.120
						10	-.026	1.113	.479	.592	1.089	.881	1.108
					129.16	6	.062	1.012	.452	.578	.985	.771	1.021
						7	.074	.985	.452	.561	.985	.795	1.025
						* 10	.039	1.056	.452	.507	.990	.884	1.014
						11	.038	1.008	.452	.552	.987	.809	1.012
					129.16	7	.074	.985	.460	.561	.985	.809	1.025
						* 8	.111	.920	.460	.476	.986	.953	1.039
						9	.076	.961	.460	.521	.986	.871	1.025
						10	.039	1.056	.460	.507	.990	.898	1.014

SUMMARY OF CE CHF TESTS

CASE			INLET				CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47 TOP	595.	1.99	2405.									
					143.36*	7	.155	1.980	.348	.395	1.122	.986	1.263
						8	.180	1.875	.348	.371	1.111	1.042	1.259
						9	.153	1.924	.348	.417	1.111	.926	1.263
						10	.128	2.036	.348	.440	1.123	.886	1.264
					143.36	5	.129	1.985	.349	.460	1.111	.844	1.264
						* 6	.151	1.993	.349	.404	1.122	.971	1.263
						11	.131	1.876	.349	.490	1.094	.780	1.264
						12	.098	2.093	.349	.517	1.112	.751	1.262
16X16	1.47 TOP	577.	2.03	2205.									
					143.36	7	.157	2.003	.369	.398	1.122	1.041	1.262
						8	.181	1.895	.369	.372	1.111	1.102	1.259
						* 9	.155	1.949	.369	.422	1.111	.972	1.263
						10	.131	2.066	.369	.446	1.123	.929	1.264
					143.36*	6	.152	2.019	.368	.407	1.122	1.015	1.263
						7	.157	2.003	.368	.398	1.122	1.037	1.262
						10	.131	2.066	.368	.446	1.123	.925	1.264
						11	.134	1.909	.368	.502	1.094	.802	1.264
					143.36	5	.132	2.015	.369	.468	1.111	.876	1.264
						* 6	.152	2.019	.369	.407	1.122	1.018	1.263
						11	.134	1.909	.369	.502	1.094	.804	1.264
						12	.105	2.136	.369	.523	1.112	.784	1.263
16X16	1.47 TOP	569.	2.03	2000.									
					143.36*	7	.159	1.995	.354	.389	1.122	1.022	1.262
						8	.181	1.887	.354	.367	1.111	1.072	1.259
						9	.157	1.940	.354	.414	1.111	.949	1.263
						10	.137	2.055	.354	.434	1.123	.916	1.264
					143.36*	6	.156	2.011	.353	.396	1.122	.999	1.263
						7	.159	1.995	.353	.389	1.122	1.018	1.262
						10	.137	2.055	.353	.434	1.123	.913	1.264
						11	.139	1.899	.353	.495	1.094	.779	1.264
					143.36	5	.138	2.005	.327	.456	1.111	.797	1.264
						* 6	.156	2.011	.327	.396	1.122	.927	1.263
						11	.139	1.899	.327	.495	1.094	.723	1.264
						12	.110	2.128	.327	.517	1.112	.704	1.264
16X16	1.47 TOP	548.	2.02	1755.									
					143.36	7	.157	1.965	.357	.382	1.122	1.050	1.263
						8	.177	1.857	.357	.363	1.111	1.094	1.260
						* 9	.155	1.913	.357	.410	1.111	.968	1.263
						10	.135	2.029	.357	.427	1.123	.940	1.264
					143.36*	6	.153	1.983	.356	.389	1.122	1.026	1.263
						7	.157	1.965	.356	.382	1.122	1.046	1.263
						10	.135	2.029	.356	.427	1.123	.936	1.264
						11	.138	1.872	.356	.496	1.094	.784	1.264
					143.36	2	.124	2.005	.330	.481	1.111	.762	1.264
						3	.136	1.975	.330	.453	1.111	.810	1.264
						6	.153	1.983	.330	.389	1.122	.952	1.263
						* 7	.157	1.965	.330	.382	1.122	.971	1.263
16X16	1.47 TOP	552.	2.04	2410.									
					143.36	7	.086	2.000	.424	.500	1.122	.953	1.260
						* 8	.116	1.867	.424	.466	1.111	1.011	1.263
						9	.083	1.949	.424	.527	1.111	.895	1.259
						10	.054	2.105	.424	.560	1.123	.851	1.254

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47 TOP	550.	2.03	2200.									
					143.36*	7	.117	1.991	.408	.466	1.122	.983	1.264
						8	.144	1.870	.408	.435	1.111	1.042	1.264
						9	.115	1.938	.408	.493	1.111	.920	1.263
						10	.089	2.075	.408	.521	1.123	.879	1.261
					143.36	6	.112	2.010	.407	.476	1.122	.960	1.264
						* 7	.117	1.991	.407	.466	1.122	.979	1.264
						10	.089	2.075	.407	.521	1.123	.876	1.261
						11	.092	1.922	.407	.585	1.094	.760	1.260
					143.36	5	.090	2.025	.408	.546	1.111	.830	1.261
						* 6	.112	2.010	.408	.476	1.122	.962	1.264
						11	.092	1.922	.408	.585	1.094	.762	1.260
						12	.058	2.177	.408	.617	1.112	.736	1.256
16X16	1.47 TOP	535.	2.04	2000.									
					143.36	7	.117	1.990	.407	.471	1.122	.969	1.264
						* 8	.142	1.868	.407	.443	1.111	1.020	1.264
						9	.115	1.938	.407	.501	1.111	.903	1.263
						10	.091	2.075	.407	.527	1.123	.868	1.261
					143.36	6	.113	2.011	.406	.481	1.122	.946	1.264
						* 7	.117	1.990	.406	.471	1.122	.965	1.264
						10	.091	2.075	.406	.527	1.123	.865	1.261
						11	.094	1.927	.406	.598	1.094	.742	1.261
					143.36	5	.092	2.027	.407	.553	1.111	.816	1.261
						* 6	.113	2.011	.407	.481	1.122	.948	1.264
						11	.094	1.927	.407	.598	1.094	.744	1.261
						12	.064	2.185	.407	.622	1.112	.728	1.257
16X16	1.47 TOP	516.	2.04	1750.									
					143.36	7	.118	1.975	.403	.469	1.122	.964	1.264
						* 8	.141	1.851	.403	.444	1.111	1.008	1.264
						9	.116	1.923	.403	.501	1.111	.894	1.263
						10	.094	2.059	.403	.522	1.123	.866	1.262
					143.36	6	.114	1.998	.401	.478	1.122	.941	1.264
						* 7	.118	1.975	.401	.469	1.122	.961	1.264
						10	.094	2.059	.401	.522	1.123	.863	1.262
						11	.097	1.919	.401	.600	1.094	.731	1.261
16X16	1.47 TOP	532.	2.03	2400.									
					143.36	7	.053	1.962	.448	.545	1.122	.923	1.251
						* 8	.082	1.809	.448	.511	1.111	.974	1.257
						9	.048	1.919	.448	.578	1.111	.862	1.249
						10	.019	2.130	.448	.618	1.123	.814	1.243
16X16	1.47 TOP	520.	2.03	2200.									
					143.36	7	.077	1.962	.451	.531	1.122	.954	1.258
						* 8	.106	1.819	.451	.498	1.111	1.008	1.262
						9	.074	1.914	.451	.563	1.111	.890	1.256
						10	.046	2.094	.451	.598	1.123	.848	1.251
					143.36	6	.071	1.992	.450	.545	1.122	.926	1.256
						* 7	.077	1.962	.450	.531	1.122	.950	1.258
						10	.046	2.094	.450	.598	1.123	.844	1.251
						11	.049	1.929	.450	.669	1.094	.735	1.249

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47 TOP	508.	2.03	2000.									
					143.36	7	.091	1.961	.449	.521	1.122	.968	1.260
						* 8	.119	1.818	.449	.488	1.111	1.023	1.263
						9	.089	1.911	.449	.553	1.111	.903	1.259
						10	.062	2.076	.449	.584	1.123	.864	1.255
					143.36	6	.086	1.928	.448	.529	1.122	.950	1.259
						7	.091	1.961	.448	.521	1.122	.965	1.260
						* 10	.095	2.094	.448	.519	1.123	.968	1.262
						11	.065	1.928	.448	.661	1.094	.740	1.254
					143.36	5	.063	2.029	.449	.614	1.111	.812	1.255
						* 6	.086	1.988	.449	.533	1.122	.945	1.260
						11	.065	1.928	.449	.661	1.094	.742	1.254
						12	.033	2.246	.449	.696	1.112	.717	1.249
16X16	1.47 TOP	493.	2.01	1750.									
					143.36	7	.099	1.931	.434	.512	1.122	.952	1.261
						* 8	.124	1.794	.434	.484	1.111	.997	1.264
						9	.097	1.881	.434	.545	1.111	.885	1.261
						10	.073	2.040	.434	.571	1.123	.854	1.258
					143.36	6	.094	1.957	.433	.522	1.122	.930	1.261
						* 7	.099	1.931	.433	.512	1.122	.949	1.261
						10	.073	2.040	.433	.571	1.123	.851	1.258
						11	.076	1.903	.433	.654	1.094	.723	1.257
16X16	1.47 TOP	493.	2.00	2225.									
					143.36	7	.039	1.915	.485	.587	1.122	.927	1.246
						* 8	.070	1.724	.485	.547	1.111	.984	1.252
						9	.035	1.875	.485	.624	1.111	.864	1.243
						10	.006	2.140	.485	.671	1.123	.811	1.238
					143.36	6	.032	1.962	.483	.605	1.122	.896	1.244
						* 7	.039	1.915	.483	.587	1.122	.923	1.246
						10	.006	2.140	.483	.671	1.123	.808	1.238
						11	.008	1.940	.483	.747	1.094	.707	1.235
16X16	1.47 TOP	504.	2.01	2405.									
					143.36	7	.016	2.015	.486	.607	1.122	.899	1.239
						* 8	.048	1.797	.486	.560	1.111	.964	1.246
						9	.012	1.969	.486	.641	1.111	.843	1.237
						10	-.020	2.136	.486	.678	1.123	.805	1.227
16X16	1.47 TOP	483.	1.97	2005.									
					143.36	6	.061	1.902	.474	.574	1.122	.926	1.253
						* 7	.069	1.860	.474	.557	1.122	.955	1.254
						10	.037	2.038	.474	.631	1.123	.842	1.247
						11	.040	1.874	.474	.712	1.094	.727	1.245
					143.36	7	.069	1.860	.475	.557	1.122	.958	1.254
						* 8	.096	1.712	.475	.525	1.111	1.005	1.259
						9	.064	1.822	.475	.595	1.111	.888	1.252
						10	.037	2.038	.475	.631	1.123	.846	1.247
16X16	1.47 TOP	445.	1.97	1755.									
					143.36	6	.063	1.871	.506	.589	1.122	.963	1.253
						* 7	.070	1.827	.506	.572	1.122	.993	1.254
						10	.039	2.024	.506	.648	1.123	.876	1.248
						11	.042	1.871	.506	.738	1.094	.749	1.246
					143.36*	7	.070	1.827	.508	.572	1.122	.996	1.254
						8	.098	1.664	.508	.541	1.111	1.042	1.259
						9	.066	1.788	.508	.614	1.111	.919	1.252
						10	.039	2.024	.508	.648	1.123	.880	1.248

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47 TOP	465.	1.97	2400.									
					143.36	7	-.023	2.053	.539	.672	1.122	.901	1.224
						* 8	.012	1.885	.539	.628	1.111	.954	1.235
						9	-.026	1.983	.539	.704	1.111	.851	1.221
						10	-.062	2.074	.539	.732	1.123	.826	1.207
16X16	1.47 TOP	456.	1.98	2195.									
					143.36	7	.009	2.020	.536	.656	1.122	.917	1.237
						* 8	.041	1.752	.536	.603	1.111	.987	1.243
						9	.006	1.979	.536	.695	1.111	.857	1.234
						10	-.026	2.101	.536	.728	1.123	.826	1.224
16X16	1.47 TOP	449.	1.97	2005.									
					143.36	7	.037	1.863	.526	.617	1.122	.957	1.244
						* 8	.067	1.644	.526	.576	1.111	1.015	1.250
						9	.032	1.831	.526	.659	1.111	.886	1.241
						10	.004	2.125	.526	.708	1.123	.835	1.237
					143.36	6	.029	1.924	.524	.637	1.122	.923	1.242
						* 7	.037	1.863	.524	.617	1.122	.954	1.244
						10	.004	2.125	.524	.708	1.123	.832	1.237
						11	.005	1.936	.524	.796	1.094	.720	1.233
16X16	1.47 TOP	600.	2.53	2405.									
					143.36	7	.140	2.153	.408	.435	1.122	1.052	1.264
						* 8	.163	2.387	.408	.447	1.111	1.014	1.258
						9	.138	2.446	.408	.498	1.111	.910	1.262
						10	.115	2.589	.408	.525	1.123	.873	1.264
16X16	1.47 TOP	591.	2.50	2200.									
					143.36	7	.141	2.475	.387	.460	1.122	.942	1.262
						* 8	.161	2.347	.387	.437	1.111	.983	1.259
						9	.138	2.409	.387	.487	1.111	.882	1.263
						10	.119	2.548	.387	.509	1.123	.852	1.264
16X16	1.47 TOP	588.	2.52	2005.									
					143.36*	7	.153	2.492	.366	.416	1.122	.987	1.259
						8	.170	2.366	.366	.395	1.111	1.029	1.256
						9	.151	2.425	.366	.442	1.111	.919	1.260
						10	.134	2.560	.366	.461	1.123	.891	1.262
					143.36	5	.135	2.497	.366	.484	1.111	.839	1.263
						* 6	.150	2.510	.366	.424	1.122	.968	1.260
						11	.136	2.360	.366	.522	1.094	.766	1.263
						12	.112	2.633	.366	.545	1.112	.746	1.264
16X16	1.47 TOP	581.	2.52	1750.									
					143.36	7	.172	2.505	.353	.320	1.122	1.238	1.254
						8	.187	2.378	.353	.303	1.111	1.294	1.250
						9	.171	2.436	.353	.347	1.111	1.131	1.255
						* 10	.156	2.570	.353	.363	1.123	1.092	1.258
					129.16	7	.141	2.452	.412	.406	1.152	1.169	1.106
						8	.156	2.340	.412	.392	1.147	1.207	1.100
						9	.138	2.416	.412	.438	1.147	1.078	1.109
						* 10	.124	2.538	.412	.452	1.153	1.051	1.115
					143.36	6	.169	2.522	.352	.328	1.122	1.204	1.255
						7	.172	2.505	.352	.320	1.122	1.234	1.254
						* 10	.156	2.570	.352	.363	1.123	1.088	1.258
						11	.155	2.376	.352	.432	1.094	.890	1.260
16X16	1.47 TOP	531.	2.49	2405.									
					143.36	7	.037	2.412	.537	.633	1.122	.952	1.253
						* 8	.067	2.194	.537	.587	1.111	1.016	1.258
						9	.033	2.361	.537	.669	1.111	.891	1.251
						10	.005	2.648	.537	.725	1.123	.831	1.246

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD		INLET TEMP	G	PRESS	CONDITIONS AT CHF Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47	TOP	530.	2.50	2205.									
						143.36	7	.062	2.405	.509	.606	1.122	.942	1.259
							* 8	.088	2.227	.509	.570	1.111	.991	1.262
							9	.059	2.352	.509	.643	1.111	.880	1.258
							10	.034	2.592	.509	.686	1.123	.833	1.254
16X16	1.47	TOP	528.	2.50	2000.									
						143.36*	7	.089	2.424	.488	.556	1.122	.986	1.263
							8	.114	2.256	.488	.520	1.111	1.042	1.264
							9	.087	2.364	.488	.589	1.111	.920	1.263
							10	.064	2.558	.488	.624	1.123	.879	1.260
16X16	1.47	TOP	504.	2.49	1750.									
						143.36	7	.083	2.392	.484	.559	1.122	.971	1.262
							* 8	.106	2.214	.484	.527	1.111	1.021	1.264
							9	.081	2.333	.484	.595	1.111	.903	1.262
							10	.060	2.537	.484	.627	1.123	.866	1.260
						143.36	6	.079	2.425	.482	.572	1.122	.946	1.262
							* 7	.083	2.392	.482	.559	1.122	.967	1.262
							10	.060	2.537	.482	.627	1.123	.863	1.260
							11	.063	2.363	.482	.713	1.094	.740	1.259
16X16	1.47	TOP	625.	2.97	2425.									
						143.36*	7	.181	2.968	.415	.454	1.122	1.026	1.245
							8	.201	2.827	.415	.427	1.111	1.080	1.237
							9	.178	2.888	.415	.476	1.111	.968	1.247
							10	.159	3.038	.415	.502	1.123	.928	1.252
16X16	1.47	TOP	616.	3.08	2200.									
						143.36*	7	.172	3.083	.401	.440	1.122	1.021	1.247
							8	.188	2.936	.401	.416	1.111	1.069	1.242
							9	.169	2.999	.401	.465	1.111	.958	1.249
							10	.153	3.155	.401	.488	1.123	.921	1.253
						143.36	5	.154	3.077	.400	.510	1.111	.871	1.254
							* 6	.169	3.099	.400	.449	1.122	1.001	1.248
							11	.155	2.907	.400	.541	1.094	.809	1.255
							12	.127	3.236	.400	.589	1.112	.756	1.260
16X16	1.47	TOP	608.	3.04	2000.									
						143.36	7	.168	3.047	.371	.395	1.122	1.054	1.249
							8	.182	2.902	.371	.375	1.111	1.099	1.245
							* 9	.166	2.963	.371	.421	1.111	.981	1.251
							10	.152	3.118	.371	.441	1.123	.946	1.254
16X16	1.47	TOP	591.	3.00	1750.									
						143.36	7	.168	2.998	.370	.315	1.122	1.319	1.250
							8	.180	2.850	.370	.297	1.111	1.384	1.247
							9	.166	2.915	.370	.342	1.111	1.204	1.251
							* 10	.153	3.070	.370	.360	1.123	1.154	1.254
						129.16	7	.140	2.941	.432	.404	1.152	1.234	1.096
							8	.153	2.814	.432	.388	1.147	1.276	1.091
							9	.137	2.896	.432	.437	1.147	1.135	1.099
							* 10	.125	3.034	.432	.452	1.153	1.103	1.104
						129.16	6	.165	3.016	.431	.323	1.152	1.536	1.078
							7	.168	2.998	.431	.315	1.152	1.576	1.076
							10	.153	3.070	.431	.360	1.153	1.378	1.085
							* 11	.153	2.833	.431	.425	1.136	1.152	1.090
						143.36	5	.152	3.001	.370	.386	1.111	1.065	1.255
							6	.165	3.016	.370	.323	1.122	1.284	1.251
							* 11	.153	2.833	.370	.425	1.094	.952	1.256
							12	.129	3.167	.370	.461	1.112	.893	1.260

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47 TOP	594.	2.99	2400.									
					143.36	7	.118	2.966	.482	.569	1.122	.949	1.263
						* 8	.141	2.800	.482	.535	1.111	1.001	1.260
						9	.116	2.886	.482	.596	1.111	.897	1.263
						10	.093	3.062	.482	.630	1.123	.858	1.264
16X16	1.47 TOP	586.	3.05	2200.									
					143.36	7	.117	3.014	.462	.561	1.122	.925	1.263
						* 8	.136	2.851	.462	.530	1.111	.968	1.260
						9	.115	2.936	.462	.591	1.111	.870	1.263
						10	.095	3.114	.462	.622	1.123	.835	1.264
16X16	1.47 TOP	577.	3.05	2000.									
					143.36*	7	.127	2.999	.451	.503	1.122	1.006	1.261
						8	.145	2.839	.451	.474	1.111	1.058	1.258
						9	.125	2.922	.451	.533	1.111	.941	1.262
						10	.108	3.095	.451	.561	1.123	.903	1.263
16X16	1.47 TOP	566.	3.05	1750.									
					143.36*	7	.112	2.978	.436	.493	1.122	.994	1.263
						8	.128	2.815	.436	.467	1.111	1.039	1.262
						9	.110	2.903	.436	.525	1.111	.922	1.264
						10	.095	3.083	.436	.550	1.123	.890	1.264
					143.36	5	.096	3.011	.436	.578	1.111	.837	1.264
						* 6	.109	3.006	.436	.503	1.122	.973	1.263
						11	.097	2.859	.436	.625	1.094	.763	1.264
						12	.077	3.206	.436	.651	1.112	.745	1.264
16X16	1.47 TOP	549.	3.00	2400.									
					143.36	7	.048	2.900	.587	.693	1.122	.950	1.260
						* 8	.074	2.677	.587	.646	1.111	1.010	1.263
						9	.043	2.842	.587	.732	1.111	.891	1.259
						10	.018	3.143	.587	.794	1.123	.830	1.255
16X16	1.47 TOP	551.	3.01	2215.									
					143.36	7	.073	2.933	.549	.651	1.122	.946	1.263
						* 8	.097	2.731	.549	.607	1.111	1.004	1.264
						9	.071	2.865	.549	.686	1.111	.889	1.263
						10	.048	3.098	.549	.732	1.123	.842	1.261
16X16	1.47 TOP	537.	3.04	2000.									
					143.36	7	.067	2.949	.527	.659	1.122	.898	1.263
						* 8	.088	2.740	.527	.620	1.111	.945	1.264
						9	.065	2.882	.527	.696	1.111	.841	1.262
						10	.045	3.126	.527	.739	1.123	.802	1.261
16X16	1.47 TOP	527.	3.03	1745.									
					143.36	7	.080	2.931	.496	.591	1.122	.941	1.264
						* 8	.099	2.738	.496	.557	1.111	.988	1.264
						9	.098	2.861	.496	.564	1.111	.977	1.264
						10	.061	3.087	.496	.663	1.123	.839	1.263
16X16	1.47 TOP	512.	3.03	2400.									
					143.36	7	-.012	3.148	.668	.856	1.122	.876	1.247
						* 8	.016	2.865	.668	.790	1.111	.939	1.252
						9	-.015	3.048	.668	.891	1.111	.833	1.245
						10	-.044	3.184	.668	.926	1.123	.810	1.236
16X16	1.47 TOP	500.	3.03	2200.									
					143.36	7	.005	3.122	.656	.839	1.122	.878	1.252
						* 8	.030	2.744	.656	.761	1.111	.958	1.255
						9	.002	3.039	.656	.879	1.111	.829	1.250
						10	-.024	3.199	.656	.920	1.123	.801	1.244

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	X	G (CHF)	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47 TOP	494.	3.03	2000.									
					143.36	7	.024	2.945	.628	.773	1.122	.912	1.255
					*	8	.047	2.606	.628	.710	1.111	.982	1.257
						9	.021	2.892	.628	.818	1.111	.852	1.254
						10	-.001	3.249	.628	.889	1.123	.793	1.251
16X16	1.47 TOP	494.	3.03	1750.									
					143.36	7	.053	2.846	.578	.671	1.122	.967	1.260
					*	8	.073	2.609	.578	.630	1.111	1.019	1.262
						9	.050	2.795	.578	.716	1.111	.898	1.260
						10	.030	3.133	.578	.769	1.123	.844	1.258
16X16	1.47 TOP	577.	1.99	2200.									
					143.36*	7	.151	1.966	.356	.405	1.122	.986	1.263
						8	.174	1.860	.356	.382	1.111	1.036	1.261
						9	.149	1.912	.356	.430	1.111	.921	1.264
						10	.126	2.027	.356	.452	1.123	.884	1.264
					143.36	6	.147	1.982	.355	.414	1.122	.963	1.264
					*	7	.151	1.966	.355	.405	1.122	.982	1.263
						10	.126	2.027	.355	.452	1.123	.881	1.264
						11	.129	1.872	.355	.509	1.094	.762	1.264
16X16	1.47 TOP	580.	1.50	2400.									
					143.36*	7	.165	1.496	.300	.340	1.122	.990	1.264
						8	.194	1.417	.300	.314	1.111	1.060	1.262
						9	.163	1.452	.300	.359	1.111	.928	1.264
						10	.134	1.537	.300	.382	1.123	.880	1.263
					143.36	6	.160	1.507	.299	.347	1.122	.965	1.264
					*	7	.165	1.496	.299	.340	1.122	.986	1.264
						10	.134	1.537	.299	.382	1.123	.877	1.263
						11	.138	1.416	.299	.428	1.094	.763	1.263
16X16	1.47 TOP	510.	1.53	2400.									
					143.36	7	.065	1.479	.387	.467	1.122	.928	1.245
					*	8	.100	1.371	.387	.436	1.111	.985	1.254
						9	.060	1.445	.387	.497	1.111	.864	1.243
						10	.027	1.601	.387	.532	1.123	.815	1.234
					143.36	6	.056	1.508	.385	.482	1.122	.896	1.243
					*	7	.065	1.479	.385	.467	1.122	.924	1.245
						10	.027	1.601	.385	.532	1.123	.812	1.234
						11	.030	1.463	.385	.595	1.094	.707	1.231
16X16	1.47 TOP	499.	1.53	2205.									
					143.36	6	.078	1.505	.385	.487	1.122	.886	1.250
					*	7	.085	1.482	.385	.474	1.122	.911	1.252
						10	.050	1.579	.385	.534	1.123	.809	1.242
						11	.053	1.455	.385	.603	1.094	.698	1.240
					143.36	7	.085	1.482	.387	.474	1.122	.914	1.252
					*	8	.118	1.377	.387	.444	1.111	.968	1.259
						9	.082	1.444	.387	.504	1.111	.852	1.250
						10	.050	1.579	.387	.534	1.123	.812	1.242
16X16	1.47 TOP	491.	1.50	2005.									
					143.36	6	.107	1.476	.379	.468	1.122	.907	1.258
					*	7	.112	1.459	.379	.459	1.122	.926	1.259
						10	.078	1.531	.379	.517	1.123	.822	1.251
						11	.084	1.425	.379	.586	1.094	.706	1.250
					143.36	7	.112	1.459	.380	.459	1.122	.930	1.259
					*	8	.145	1.360	.380	.428	1.111	.986	1.263
						9	.111	1.418	.380	.487	1.111	.867	1.258
						10	.078	1.531	.380	.517	1.123	.825	1.251

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47 TOP	488.	1.50	1750.									
					143.36	7	.142	1.451	.367	.432	1.122	.952	1.263
						* 8	.172	1.358	.367	.407	1.111	1.002	1.264
						9	.141	1.410	.367	.462	1.111	.882	1.263
						10	.113	1.509	.367	.483	1.123	.853	1.260
					143.36	2	.097	1.506	.339	.545	1.111	.692	1.256
						3	.114	1.473	.339	.513	1.111	.735	1.259
						6	.137	1.467	.339	.441	1.122	.864	1.263
						* 7	.142	1.451	.339	.432	1.122	.881	1.263
					143.36	6	.137	1.467	.366	.441	1.122	.931	1.263
						* 7	.142	1.451	.366	.432	1.122	.949	1.263
						10	.113	1.509	.366	.483	1.123	.850	1.260
						11	.117	1.409	.366	.560	1.094	.715	1.259
					143.36	1	.124	1.407	.338	.520	1.101	.716	1.260
						2	.097	1.506	.338	.545	1.111	.690	1.256
						7	.142	1.451	.338	.432	1.122	.878	1.263
						* 8	.172	1.358	.338	.407	1.111	.923	1.264
					137.45	2	.075	1.531	.349	.589	1.169	.693	1.277
						3	.094	1.475	.349	.552	1.169	.739	1.277
						6	.118	1.448	.349	.477	1.182	.865	1.276
						* 7	.123	1.432	.349	.469	1.182	.879	1.276
16X16	1.47 TOP	507.	2.01	2005.									
					143.36*	7	.094	1.942	.451	.513	1.122	.987	1.261
						8	.123	1.800	.451	.479	1.111	1.047	1.263
						9	.092	1.892	.451	.545	1.111	.920	1.260
						10	.065	2.055	.451	.577	1.123	.879	1.256
					143.36	6	.089	1.968	.450	.525	1.122	.961	1.260
						* 7	.094	1.942	.450	.513	1.122	.984	1.261
						10	.065	2.055	.450	.577	1.123	.876	1.256
						11	.068	1.909	.450	.653	1.094	.753	1.255
16X16	1.47 TOP	550.	2.01	2205.									
					143.36	7	.109	1.973	.398	.477	1.122	.936	1.263
						* 8	.136	1.852	.398	.449	1.111	.987	1.264
						9	.107	1.920	.398	.505	1.111	.877	1.262
						10	.081	2.058	.398	.532	1.123	.841	1.259
					143.36	6	.104	1.992	.397	.487	1.122	.914	1.263
						* 7	.109	1.973	.397	.477	1.122	.933	1.263
						10	.081	2.058	.397	.532	1.123	.838	1.259
						11	.084	1.905	.397	.598	1.094	.726	1.259
16X16	1.47 TOP	550.	2.01	2205.									
					143.36	7	.109	1.973	.397	.477	1.122	.934	1.263
						* 8	.136	1.852	.397	.449	1.111	.984	1.264
						9	.107	1.920	.397	.505	1.111	.874	1.262
						10	.081	2.058	.397	.532	1.123	.839	1.259
					143.36	6	.104	1.992	.396	.487	1.122	.911	1.263
						* 7	.109	1.973	.396	.477	1.122	.930	1.263
						10	.081	2.058	.396	.532	1.123	.835	1.259
						11	.084	1.905	.396	.598	1.094	.724	1.259

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD		INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CEI	F	MEAS PRED	TONG F
16X16	1.47	TOP	480.	.98	2400.									
						143.36	6	.107	.988	.304	.363	1.122	.940	1.246
							* 7	.116	.979	.304	.352	1.122	.968	1.249
							10	.071	1.013	.304	.405	1.123	.842	1.232
							11	.076	.935	.304	.457	1.094	.728	1.230
						143.36*	7	.116	.979	.305	.352	1.122	.972	1.249
							8	.160	.926	.305	.317	1.111	1.069	1.260
							9	.113	.949	.305	.373	1.111	.908	1.247
							10	.071	1.013	.305	.405	1.123	.846	1.232
16X16	1.47	TOP	465.	.99	2200.									
						143.36	6	.103	.995	.302	.414	1.122	.818	1.244
							* 7	.111	.986	.302	.404	1.122	.839	1.247
							10	.071	1.020	.302	.455	1.123	.745	1.232
							11	.075	.944	.302	.518	1.094	.638	1.230
16X16	1.47	TOP	461.	1.01	2000.									
						143.36	6	.148	1.008	.312	.399	1.122	.876	1.259
							* 7	.155	1.000	.312	.390	1.122	.896	1.260
							10	.116	1.029	.312	.442	1.123	.792	1.250
							11	.121	.958	.312	.507	1.094	.672	1.250
16X16	1.47	TOP	410.	1.03	2405.									
						143.36	6	-.002	1.094	.362	.498	1.122	.816	1.201
							* 7	.010	1.069	.362	.481	1.122	.846	1.206
							10	-.039	1.100	.362	.540	1.123	.753	1.183
							11	-.039	.997	.362	.612	1.094	.647	1.177
16X16	1.47	TOP	402.	1.00	2200.									
						143.36	6	.057	.986	.359	.470	1.122	.858	1.224
							* 7	.069	.964	.359	.453	1.122	.889	1.229
							10	.022	1.059	.359	.520	1.123	.775	1.211
							11	.023	.970	.359	.593	1.094	.662	1.207
16X16	1.47	TOP	381.	1.00	2205.									
						143.36	6	.028	1.008	.372	.506	1.122	.825	1.211
							* 7	.040	.979	.372	.488	1.122	.855	1.216
							10	-.007	1.087	.372	.558	1.123	.748	1.198
							11	-.006	.988	.372	.637	1.094	.639	1.193
16X16	1.47	TOP	368.	1.01	2005.									
						143.36	6	.074	.984	.386	.497	1.122	.871	1.232
							* 7	.087	.961	.386	.480	1.122	.903	1.236
							10	.039	1.050	.386	.547	1.123	.793	1.219
							11	.042	.972	.386	.628	1.094	.672	1.216
						143.36	7	.087	.961	.388	.480	1.122	.907	1.236
							* 8	.129	.902	.388	.447	1.111	.962	1.250
							9	.081	.938	.388	.515	1.111	.836	1.233
							10	.039	1.050	.388	.547	1.123	.796	1.219
16X16	1.47	TOP	492.	1.52	2000.									
						143.36	6	.100	1.496	.376	.480	1.122	.880	1.257
							* 7	.106	1.478	.376	.470	1.122	.899	1.258
							10	.074	1.553	.376	.525	1.123	.805	1.250
							11	.078	1.445	.376	.599	1.094	.687	1.249
16X16	1.47	TOP	502.	3.01	2205.									
						143.36	7	.005	3.100	.646	.834	1.122	.870	1.252
							* 8	.030	2.729	.646	.758	1.111	.947	1.255
							9	.002	3.019	.646	.875	1.111	.821	1.250
							10	-.023	3.178	.646	.914	1.123	.794	1.243

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD		INLET TEMP	INLET G	PRESS	Z		CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	1.47	TOP	492.	3.00	2005.										
						143.36		7	.018	2.977	.623	.794	1.122	.880	1.254
							*	8	.040	2.622	.623	.729	1.111	.948	1.256
								9	.015	2.923	.623	.840	1.111	.824	1.252
								10	-.008	3.199	.623	.897	1.123	.779	1.249
16X16	1.47	TOP	529.	2.53	2200.										
						143.36		7	.057	2.427	.508	.621	1.122	.918	1.258
							*	8	.079	2.244	.508	.590	1.111	.956	1.261
								9	.050	2.378	.508	.663	1.111	.850	1.256
								10	.026	2.638	.508	.709	1.123	.804	1.252
16X16	1.47	TOP	534.	2.01	2005.										
						143.36		6	.107	1.983	.398	.491	1.122	.910	1.263
							*	7	.112	1.963	.398	.481	1.122	.928	1.263
								10	.086	2.048	.398	.536	1.123	.834	1.260
								11	.089	1.901	.398	.607	1.094	.717	1.259
						143.36		7	.112	1.963	.400	.481	1.122	.932	1.263
							*	8	.135	1.840	.400	.457	1.111	.971	1.264
								9	.109	1.910	.400	.511	1.111	.869	1.263
								10	.086	2.048	.400	.536	1.123	.837	1.260

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	595.	2.01	2405.									
					114.96	5	.108	2.000	.438	.437	1.149	1.153	1.196
					*	6	.128	2.007	.438	.439	1.144	1.142	1.198
						11	.108	1.898	.438	.410	1.152	1.231	1.195
						12	.077	2.114	.438	.437	1.157	1.159	1.192
					114.96*	6	.128	2.007	.437	.439	1.144	1.139	1.198
						7	.130	1.994	.437	.434	1.144	1.153	1.199
						10	.102	2.061	.437	.400	1.157	1.264	1.196
						11	.108	1.898	.437	.410	1.152	1.228	1.195
16X16	SPIKE	587.	2.01	2205.									
					114.96	5	.119	1.992	.425	.432	1.149	1.132	1.197
					*	6	.136	2.000	.425	.433	1.144	1.123	1.199
						11	.119	1.891	.425	.408	1.152	1.199	1.197
						12	.092	2.016	.425	.423	1.157	1.162	1.194
					129.16	6	.153	1.989	.381	.404	.998	.941	1.182
					*	7	.169	1.973	.381	.375	.998	1.013	1.192
						10	.149	2.017	.381	.342	1.020	1.137	1.181
						11	.148	1.913	.381	.367	1.009	1.046	1.177
16X16	SPIKE	580.	2.02	2005.									
					114.96	5	.134	1.990	.417	.409	1.149	1.174	1.199
					*	6	.150	2.000	.417	.407	1.144	1.172	1.200
						11	.135	1.888	.417	.391	1.152	1.231	1.198
						12	.110	2.108	.417	.407	1.157	1.185	1.197
					114.96*	7	.152	1.985	.416	.403	1.144	1.183	1.200
						8	.172	1.883	.416	.339	1.149	1.413	1.201
						9	.149	1.937	.416	.380	1.149	1.259	1.200
						10	.130	2.047	.416	.372	1.157	1.295	1.199
					114.96*	6	.150	2.000	.416	.407	1.144	1.169	1.200
						7	.152	1.985	.416	.403	1.144	1.183	1.200
						10	.130	2.047	.416	.372	1.157	1.295	1.199
						11	.135	1.888	.416	.391	1.152	1.228	1.198
					129.16*	7	.179	1.980	.374	.350	.998	1.067	1.197
						8	.197	1.897	.374	.295	1.004	1.275	1.204
						9	.178	1.937	.374	.328	1.004	1.145	1.196
						10	.161	2.023	.374	.320	1.020	1.193	1.188
					129.16*	6	.175	1.997	.374	.358	.998	1.043	1.196
						7	.179	1.980	.374	.350	.998	1.067	1.197
						10	.161	2.023	.374	.320	1.020	1.193	1.188
						11	.158	1.926	.374	.352	1.009	1.071	1.183
16X16	SPIKE	573.	2.03	1750.									
					114.96*	6	.158	2.012	.386	.377	1.144	1.174	1.200
						7	.160	1.999	.386	.373	1.144	1.186	1.200
						10	.177	1.897	.386	.282	1.157	1.588	1.200
						11	.157	1.949	.386	.342	1.152	1.300	1.200
16X16	SPIKE	561.	2.00	1760.									
					114.96*	6	.141	1.967	.405	.416	1.144	1.112	1.199
						7	.143	1.951	.405	.412	1.144	1.123	1.200
						10	.123	2.015	.405	.378	1.157	1.238	1.198
						11	.128	1.861	.405	.404	1.152	1.154	1.198
16X16	SPIKE	568.	2.00	2405.									
					100.76	7	.010	2.015	.461	.616	1.101	.825	1.202
					*	8	.027	1.843	.461	.527	1.114	.975	1.205
						9	-.002	1.995	.461	.588	1.114	.874	1.197
						10	-.020	2.104	.461	.558	1.137	.940	1.192

SUMMARY OF CE CHF TESTS

CASE ARRAY	CASE APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	CONDITIONS AT CHF G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	559.	1.99	2200.									
					114.96	5	.070	1.983	.469	.510	1.149	1.058	1.190
						* 6	.089	1.969	.469	.511	1.144	1.050	1.193
						11	.070	1.886	.469	.482	1.152	1.122	1.189
						12	.041	2.130	.469	.509	1.157	1.066	1.186
16X16	SPIKE	551.	2.00	2005.									
					114.96	5	.090	1.980	.465	.489	1.149	1.093	1.193
						* 6	.108	1.971	.465	.489	1.144	1.089	1.196
						11	.090	1.887	.465	.466	1.152	1.151	1.192
						12	.064	2.121	.465	.487	1.157	1.106	1.190
					129.16	6	.136	1.965	.417	.433	.998	.961	1.171
						7	.141	1.948	.417	.424	.998	.982	1.174
						10	.120	2.002	.417	.386	1.020	1.103	1.162
						* 11	.119	1.908	.417	.418	1.009	1.006	1.158
					129.16*	7	.141	1.948	.417	.424	.998	.982	1.174
						8	.183	1.857	.417	.320	1.004	1.310	1.196
						9	.140	1.905	.417	.396	1.004	1.059	1.172
						10	.120	2.002	.417	.386	1.020	1.103	1.162
16X16	SPIKE	528.	2.03	2395.									
					114.96	5	-.016	2.084	.562	.623	1.149	1.036	1.175
						* 6	.008	2.079	.562	.630	1.144	1.021	1.179
						11	-.015	1.956	.562	.581	1.152	1.114	1.174
						12	-.057	2.127	.562	.611	1.157	1.063	1.169
16X16	SPIKE	523.	2.02	2200.									
					114.96*	5	.018	2.042	.546	.601	1.149	1.045	1.181
						6	.040	1.961	.546	.595	1.144	1.051	1.184
						11	.019	1.924	.546	.564	1.152	1.115	1.180
						12	-.016	2.206	.546	.603	1.157	1.047	1.176
16X16	SPIKE	521.	2.01	2000.									
					129.16	6	.104	1.972	.471	.497	.998	.946	1.150
						7	.109	1.949	.471	.485	.998	.968	1.153
						10	.086	2.018	.471	.442	1.020	1.086	1.140
						* 11	.084	1.932	.471	.479	1.009	.991	1.136
					114.96	5	.051	1.996	.525	.561	1.149	1.077	1.186
						6	.072	1.957	.525	.558	1.144	1.077	1.190
						11	.053	1.901	.525	.531	1.152	1.138	1.186
						* 12	.023	2.225	.525	.566	1.157	1.074	1.183
16X16	SPIKE	521.	2.01	1760.									
					114.96	5	.080	1.983	.486	.518	1.149	1.080	1.191
						* 6	.097	1.959	.486	.515	1.144	1.079	1.194
						11	.080	1.895	.486	.496	1.152	1.129	1.191
						12	.055	2.146	.486	.513	1.157	1.097	1.188
					129.16	6	.124	1.962	.436	.455	.998	.956	1.163
						7	.127	1.939	.436	.450	.998	.967	1.164
						10	.109	2.001	.436	.405	1.020	1.098	1.155
						* 11	.108	1.914	.436	.442	1.009	.993	1.151
					129.16*	7	.127	1.939	.436	.450	.998	.967	1.164
						8	.149	1.841	.436	.377	1.004	1.162	1.175
						9	.128	1.896	.436	.417	1.004	1.050	1.164
						10	.109	2.001	.436	.405	1.020	1.098	1.155
16X16	SPIKE	506.	1.99	2425.									
					100.76	7	-.097	2.062	.581	.777	1.101	.823	1.160
						* 8	-.066	1.977	.581	.667	1.114	.970	1.171
						9	-.103	2.001	.581	.722	1.114	.897	1.156
						10	-.134	2.077	.581	.691	1.137	.957	1.145

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	507.	2.00	2215.									
					114.96*	5	.002	2.077	.582	.629	1.149	1.064	1.178
						6	.025	1.968	.582	.619	1.144	1.077	1.181
						11	.002	1.950	.582	.589	1.152	1.138	1.177
						12	-.036	2.122	.582	.620	1.157	1.087	1.172
16X16	SPIKE	606.	2.48	2400.									
					114.96	5	.107	2.467	.480	.490	1.149	1.125	1.198
					*	6	.125	2.479	.480	.497	1.144	1.106	1.200
						11	.107	2.341	.480	.458	1.152	1.206	1.198
						12	.080	2.598	.480	.488	1.157	1.137	1.196
					114.96*	6	.125	2.479	.479	.497	1.144	1.103	1.200
						7	.127	2.464	.479	.491	1.144	1.116	1.200
						10	.102	2.542	.479	.449	1.157	1.232	1.198
						11	.107	2.341	.479	.458	1.152	1.204	1.198
16X16	SPIKE	595.	2.54	2200.									
					114.96	5	.106	2.582	.486	.504	1.149	1.108	1.199
					*	6	.124	2.580	.486	.502	1.144	1.108	1.200
						11	.108	2.437	.486	.470	1.152	1.192	1.198
						12	.083	2.693	.486	.498	1.157	1.130	1.197
					114.96*	6	.124	2.580	.485	.502	1.144	1.105	1.200
						7	.129	2.558	.485	.491	1.144	1.130	1.200
						10	.106	2.640	.485	.451	1.157	1.244	1.199
						11	.108	2.437	.485	.470	1.152	1.189	1.198
16X16	SPIKE	587.	2.49	2000.									
					114.96*	5	.119	2.533	.467	.461	1.149	1.163	1.200
						6	.136	2.534	.467	.455	1.144	1.174	1.200
						11	.121	2.389	.467	.434	1.152	1.239	1.199
						12	.098	2.640	.467	.457	1.157	1.181	1.198
					114.96*	6	.141	2.534	.466	.445	1.144	1.198	1.201
						7	.141	2.511	.466	.443	1.144	1.202	1.201
						10	.121	2.587	.466	.409	1.157	1.315	1.200
						11	.121	2.389	.466	.434	1.152	1.236	1.199
					114.96*	7	.141	2.511	.466	.443	1.144	1.202	1.201
						8	.160	2.377	.466	.369	1.149	1.451	1.200
						9	.140	2.444	.466	.413	1.149	1.294	1.200
						10	.121	2.587	.466	.409	1.157	1.315	1.200
16X16	SPIKE	579.	2.53	1750.									
					114.96*	6	.137	2.579	.428	.415	1.144	1.180	1.200
						7	.141	2.557	.428	.404	1.144	1.211	1.201
						10	.124	2.630	.428	.374	1.157	1.324	1.200
						11	.125	2.427	.428	.405	1.152	1.218	1.200
					114.96*	7	.141	2.557	.428	.404	1.144	1.211	1.201
						8	.157	2.422	.428	.340	1.149	1.448	1.200
						9	.140	2.487	.428	.381	1.149	1.292	1.200
						10	.124	2.630	.428	.374	1.157	1.324	1.200
					114.96*	5	.123	2.576	.429	.424	1.149	1.162	1.200
						6	.137	2.579	.429	.415	1.144	1.183	1.200
						11	.125	2.427	.429	.405	1.152	1.221	1.200
						12	.106	2.679	.429	.420	1.157	1.183	1.199
16X16	SPIKE	536.	2.52	2415.									
					114.96*	6	-.006	2.641	.659	.742	1.144	1.015	1.182
						7	.001	2.612	.659	.725	1.144	1.039	1.183
						10	-.031	2.664	.659	.655	1.157	1.164	1.177
						11	-.027	2.419	.659	.664	1.152	1.142	1.176

SUMMARY OF CE CHF TESTS

CASE		INLET				CONDITIONS AT CHF							
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	529.	2.52	2200.									
					114.96*	5	.007	2.612	.647	.697	1.149	1.067	1.183
						6	.029	2.482	.647	.682	1.144	1.087	1.187
						11	.010	2.438	.647	.643	1.152	1.160	1.183
						12	-.021	2.704	.647	.680	1.157	1.101	1.179
					114.96*	6	.029	2.482	.646	.682	1.144	1.084	1.187
						7	.036	2.422	.646	.660	1.144	1.120	1.187
						10	.007	2.694	.646	.629	1.157	1.188	1.184
						11	.010	2.438	.646	.643	1.152	1.157	1.183
16X16	SPIKE	530.	2.52	2000.									
					114.96*	5	.030	2.553	.592	.659	1.149	1.032	1.187
						6	.049	2.460	.592	.650	1.144	1.042	1.190
						11	.033	2.401	.592	.613	1.152	1.112	1.187
						12	.008	2.831	.592	.661	1.157	1.035	1.185
16X16	SPIKE	506.	2.48	1750.									
					114.96*	5	.043	2.488	.606	.627	1.149	1.111	1.189
						6	.062	2.409	.606	.615	1.144	1.127	1.192
						11	.046	2.353	.606	.588	1.152	1.186	1.189
						12	.023	2.759	.606	.626	1.157	1.119	1.187
					114.96*	7	.068	2.363	.604	.598	1.144	1.157	1.192
						8	.092	2.171	.604	.496	1.149	1.399	1.195
						9	.066	2.314	.604	.561	1.149	1.237	1.192
						10	.043	2.552	.604	.559	1.157	1.250	1.190
					114.96*	6	.062	2.409	.604	.615	1.144	1.124	1.192
						7	.068	2.363	.604	.598	1.144	1.157	1.192
						10	.043	2.552	.604	.559	1.157	1.250	1.190
						11	.046	2.353	.604	.568	1.152	1.183	1.189
					129.16*	6	.089	2.465	.543	.546	.998	.993	1.156
						7	.096	2.422	.543	.526	.998	1.029	1.159
						10	.076	2.520	.543	.482	1.020	1.148	1.149
						11	.072	2.421	.543	.530	1.009	1.033	1.143
16X16	SPIKE	622.	3.10	2400.									
					114.96	5	.118	3.151	.525	.556	1.149	1.086	1.200
					*	6	.136	3.165	.525	.562	1.144	1.070	1.200
						11	.120	2.973	.525	.510	1.152	1.186	1.200
						12	.095	3.265	.525	.547	1.157	1.112	1.200
					114.96*	6	.136	3.165	.524	.562	1.144	1.067	1.200
						7	.141	3.143	.524	.549	1.144	1.091	1.200
						10	.119	3.227	.524	.501	1.157	1.209	1.201
						11	.120	2.973	.524	.510	1.152	1.183	1.200

SUMMARY OF CE CHF TESTS

CASE		INLET			CONDITIONS AT CHF								
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	621.	3.01	2200.									
					114.96	5	.147	3.062	.482	.464	1.149	1.196	1.200
					*	6	.162	3.082	.482	.462	1.144	1.195	1.198
						11	.149	2.887	.482	.429	1.152	1.295	1.200
						12	.127	3.164	.482	.459	1.157	1.216	1.200
					114.96*	6	.162	3.082	.481	.462	1.144	1.192	1.198
						7	.166	3.062	.481	.451	1.144	1.221	1.198
						10	.148	3.136	.481	.415	1.157	1.342	1.200
						11	.149	2.887	.481	.429	1.152	1.292	1.200
					114.96*	7	.166	3.062	.481	.451	1.144	1.221	1.198
						8	.184	2.914	.481	.374	1.149	1.478	1.196
						9	.165	2.979	.481	.417	1.149	1.325	1.198
						10	.148	3.136	.481	.415	1.157	1.342	1.200
					100.76*	7	.132	3.032	.469	.529	1.101	.975	1.231
						8	.148	2.889	.469	.446	1.114	1.170	1.229
						9	.130	2.965	.469	.492	1.114	1.061	1.231
						10	.112	3.120	.469	.484	1.137	1.102	1.232
16X16	SPIKE	604.	3.00	2000.									
					114.96*	5	.128	3.052	.473	.470	1.149	1.158	1.201
						6	.143	3.067	.473	.465	1.144	1.165	1.200
						11	.130	2.878	.473	.439	1.152	1.242	1.201
						12	.110	3.161	.473	.465	1.157	1.178	1.200
					114.96*	6	.143	3.067	.472	.465	1.144	1.162	1.200
						7	.146	3.044	.472	.454	1.144	1.191	1.200
						10	.129	3.123	.472	.418	1.157	1.307	1.200
						11	.130	2.878	.472	.439	1.152	1.239	1.201
16X16	SPIKE	594.	3.04	1750.									
					100.76	5	.110	3.078	.438	.468	1.114	1.043	1.233
					*	6	.119	3.077	.438	.472	1.101	1.023	1.232
						11	.111	2.934	.438	.445	1.120	1.104	1.233
						12	.095	3.193	.438	.461	1.136	1.080	1.233
					114.96*	6	.148	3.111	.449	.377	1.144	1.363	1.200
						7	.151	3.088	.449	.366	1.144	1.402	1.199
						10	.137	3.166	.449	.343	1.157	1.513	1.200
						11	.137	2.916	.449	.372	1.152	1.390	1.200
					100.76*	7	.126	3.056	.437	.448	1.101	1.075	1.231
						8	.136	2.908	.437	.390	1.114	1.250	1.231
						9	.123	2.990	.437	.428	1.114	1.138	1.232
						10	.133	3.161	.437	.352	1.137	1.411	1.230
					114.96*	5	.136	3.094	.450	.390	1.149	1.326	1.200
						6	.148	3.111	.450	.377	1.144	1.366	1.200
						11	.137	2.916	.450	.372	1.152	1.393	1.200
						12	.120	3.203	.450	.390	1.157	1.333	1.201
16X16	SPIKE	596.	3.01	2400.									
					114.96	5	.066	3.051	.592	.638	1.149	1.066	1.196
					*	6	.087	3.031	.592	.640	1.144	1.057	1.198
						11	.069	2.883	.592	.586	1.152	1.162	1.196
						12	.042	3.210	.592	.630	1.157	1.085	1.193
					114.96*	6	.087	3.031	.590	.640	1.144	1.055	1.198
						7	.092	3.003	.590	.625	1.144	1.080	1.199
						10	.066	3.128	.590	.576	1.157	1.185	1.196
						11	.069	2.883	.590	.586	1.152	1.159	1.196

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	590.	3.01	2200.									
					114.96	5	.083	3.054	.564	.602	1.149	1.078	1.198
					*	6	.101	3.043	.564	.601	1.144	1.074	1.200
						11	.085	2.889	.564	.557	1.152	1.166	1.198
						12	.061	3.205	.564	.596	1.157	1.096	1.196
					114.96*	6	.101	3.043	.563	.601	1.144	1.071	1.200
						7	.106	3.016	.563	.587	1.144	1.097	1.200
						10	.083	3.124	.563	.540	1.157	1.205	1.198
						11	.085	2.889	.563	.557	1.152	1.163	1.198
16X16	SPIKE	568.	2.98	2000.									
					114.96*	5	.071	3.021	.572	.611	1.149	1.076	1.197
						6	.088	2.992	.572	.606	1.144	1.079	1.198
						11	.073	2.860	.572	.571	1.152	1.154	1.196
						12	.051	3.195	.572	.608	1.157	1.089	1.195
					114.96*	6	.088	2.992	.571	.606	1.144	1.077	1.198
						7	.093	2.961	.571	.592	1.144	1.103	1.199
						10	.072	3.089	.571	.548	1.157	1.205	1.197
						11	.073	2.860	.571	.571	1.152	1.151	1.196
16X16	SPIKE	549.	2.99	1750.									
					114.96*	5	.072	3.030	.563	.583	1.149	1.109	1.197
						6	.087	2.995	.563	.573	1.144	1.124	1.198
						11	.073	2.873	.563	.550	1.152	1.178	1.196
						12	.053	3.216	.563	.583	1.157	1.118	1.195
16X16	SPIKE	564.	2.98	2400.									
					114.96*	6	.039	2.947	.690	.719	1.144	1.098	1.191
						7	.046	2.890	.690	.696	1.144	1.135	1.192
						10	.015	3.137	.690	.661	1.157	1.207	1.189
						11	.018	2.858	.690	.667	1.152	1.191	1.187
					114.96*	5	.015	3.047	.692	.730	1.149	1.089	1.188
						6	.039	2.947	.692	.719	1.144	1.101	1.191
						11	.018	2.858	.692	.667	1.152	1.194	1.187
						12	-.012	3.239	.692	.726	1.157	1.101	1.184
16X16	SPIKE	542.	3.01	2190.									
					114.96*	6	.029	2.970	.698	.758	1.144	1.054	1.190
						7	.035	2.902	.698	.732	1.144	1.090	1.190
						10	.009	3.204	.698	.700	1.157	1.153	1.188
						11	.011	2.906	.698	.709	1.152	1.133	1.186
					114.96*	5	.008	3.108	.699	.775	1.149	1.037	1.187
						6	.029	2.970	.699	.758	1.144	1.057	1.190
						11	.011	2.906	.699	.709	1.152	1.136	1.186
						12	-.016	2.906	.699	.704	1.157	1.149	1.182
16X16	SPIKE	530.	3.01	2000.									
					114.96*	5	.019	3.076	.685	.751	1.149	1.048	1.189
						6	.038	2.934	.685	.733	1.144	1.069	1.191
						11	.022	2.885	.685	.693	1.152	1.139	1.188
						12	-.003	3.333	.685	.754	1.157	1.050	1.187
					114.96*	6	.038	2.934	.683	.733	1.144	1.067	1.191
						7	.044	2.861	.683	.708	1.144	1.105	1.192
						10	.020	3.166	.683	.677	1.157	1.169	1.189
						11	.022	2.885	.683	.693	1.152	1.136	1.188
16X16	SPIKE	518.	3.03	1750.									
					114.96	5	.032	3.056	.651	.706	1.149	1.060	1.191
						6	.049	2.944	.651	.692	1.144	1.077	1.193
						11	.035	2.881	.651	.657	1.152	1.142	1.190
					*	12	.014	3.394	.651	.714	1.157	1.055	1.190

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	534.	2.98	2400.									
					114.96*	6	-.007	3.119	.779	.840	1.144	1.062	1.185
						7	.000	3.095	.779	.821	1.144	1.086	1.186
						10	-.032	3.146	.779	.742	1.157	1.215	1.180
						11	-.028	2.862	.779	.745	1.152	1.204	1.179
					114.96	5	-.032	3.052	.781	.817	1.149	1.099	1.189
					*	6	-.007	3.119	.781	.840	1.144	1.065	1.185
						11	-.028	2.862	.781	.745	1.152	1.207	1.179
						12	-.064	3.101	.781	.787	1.157	1.149	1.175
16X16	SPIKE	514.	2.99	2200.									
					114.96*	6	-.007	3.134	.779	.870	1.144	1.025	1.185
						7	-.001	3.123	.779	.854	1.144	1.045	1.186
						10	-.030	3.159	.779	.769	1.157	1.172	1.181
						11	-.026	2.870	.779	.777	1.152	1.155	1.180
16X16	SPIKE	500.	3.02	2000.									
					114.96*	6	.004	3.181	.774	.865	1.144	1.024	1.187
						7	.009	3.097	.774	.835	1.144	1.061	1.187
						10	-.017	3.205	.774	.767	1.157	1.167	1.183
						11	-.013	2.912	.774	.779	1.152	1.145	1.182
					114.96	5	-.017	3.104	.776	.847	1.149	1.053	1.183
					*	6	.004	3.181	.776	.865	1.144	1.027	1.187
						11	-.013	2.912	.776	.779	1.152	1.148	1.182
						12	-.042	3.148	.776	.818	1.157	1.097	1.179
16X16	SPIKE	485.	2.95	1750.									
					129.16	6	.051	2.884	.664	.680	.998	.975	1.142
					*	7	.057	2.819	.664	.656	.998	1.011	1.144
						10	.038	2.998	.664	.606	1.020	1.117	1.136
						11	.037	2.856	.664	.648	1.009	1.033	1.132
					114.96*	6	.022	2.900	.739	.773	1.144	1.094	1.188
						7	.027	2.801	.739	.745	1.144	1.135	1.188
						10	.004	3.204	.739	.721	1.157	1.186	1.187
						11	.006	2.921	.739	.743	1.152	1.146	1.185
					114.96*	5	.003	3.098	.741	.800	1.149	1.065	1.186
						6	.022	2.900	.741	.773	1.144	1.096	1.188
						11	.006	2.921	.741	.743	1.152	1.149	1.185
						12	-.019	3.138	.741	.777	1.157	1.102	1.183
16X16	SPIKE	586.	1.52	2400.									
					114.96*	5	.109	1.545	.368	.389	1.149	1.086	1.192
						6	.135	1.548	.368	.384	1.144	1.096	1.196
						11	.112	1.458	.368	.365	1.152	1.161	1.191
						12	.079	1.613	.368	.386	1.157	1.102	1.187
					129.16	6	.079	1.546	.330	.457	.998	.720	1.118
					*	7	.178	1.530	.330	.325	.998	1.011	1.183
						10	.154	1.565	.330	.298	1.020	1.129	1.169
						11	.150	1.478	.330	.322	1.009	1.031	1.162
16X16	SPIKE	516.	1.50	2400.									
					114.96	5	.026	1.537	.471	.491	1.149	1.101	1.177
					*	6	.053	1.534	.471	.490	1.144	1.099	1.182
						11	.028	1.450	.471	.460	1.152	1.177	1.176
						12	-.008	1.608	.471	.482	1.157	1.130	1.172
					114.96*	6	.053	1.534	.469	.490	1.144	1.096	1.182
						7	.061	1.518	.469	.478	1.144	1.124	1.183
						10	.027	1.567	.469	.437	1.157	1.243	1.177
						11	.028	1.450	.469	.460	1.152	1.174	1.176

SUMMARY OF CE CHF TESTS

CASE		INLET					CONDITIONS AT CHF						
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	495.	1.50	2210.									
					114.96*	5	.013	1.548	.485	.547	1.149	1.019	1.175
						6	.042	1.468	.485	.535	1.144	1.037	1.179
						11	.017	1.444	.485	.511	1.152	1.092	1.174
						12	-.021	1.636	.485	.538	1.157	1.042	1.170
					129.16	6	.086	1.489	.435	.473	.998	.916	1.120
						7	.096	1.466	.435	.456	.998	.951	1.126
						10	.066	1.527	.435	.418	1.020	1.060	1.109
						* 11	.065	1.450	.435	.450	1.009	.974	1.104
16X16	SPIKE	489.	1.51	2000.									
					129.16	7	.120	1.480	.430	.448	.998	.958	1.142
						8	.150	1.397	.430	.371	1.004	1.165	1.159
						* 9	.121	1.444	.430	.415	1.004	1.041	1.142
						10	.092	1.535	.430	.410	1.020	1.069	1.126
					129.16	6	.110	1.505	.430	.464	.998	.925	1.137
						7	.120	1.480	.430	.448	.998	.958	1.142
						10	.092	1.535	.430	.410	1.020	1.069	1.126
						* 11	.087	1.474	.430	.451	1.009	.961	1.120
					114.96*	5	.045	1.523	.480	.536	1.149	1.030	1.180
						6	.072	1.472	.480	.526	1.144	1.043	1.184
						11	.050	1.435	.480	.504	1.152	1.096	1.180
						12	.016	1.698	.480	.530	1.157	1.048	1.177
16X16	SPIKE	500.	1.51	2210.									
					129.16	6	.089	1.501	.429	.469	.998	.911	1.122
						7	.098	1.478	.429	.454	.998	.942	1.127
						10	.069	1.538	.429	.416	1.020	1.051	1.111
						* 11	.068	1.460	.429	.447	1.009	.967	1.107
					114.96*	5	.017	1.551	.478	.542	1.149	1.014	1.175
						6	.045	1.476	.478	.531	1.144	1.031	1.179
						11	.021	1.449	.478	.507	1.152	1.086	1.175
						12	-.016	1.658	.478	.535	1.157	1.035	1.171
16X16	SPIKE	486.	1.49	1750.									
					114.96*	6	.107	1.474	.459	.496	1.144	1.059	1.191
						7	.114	1.453	.459	.484	1.144	1.085	1.192
						10	.084	1.531	.459	.447	1.157	1.187	1.187
						11	.084	1.434	.459	.486	1.152	1.088	1.186
					129.16	6	.140	1.492	.412	.434	.998	.949	1.157
						* 7	.150	1.468	.412	.418	.998	.986	1.162
						10	.125	1.517	.412	.383	1.020	1.100	1.147
						11	.119	1.454	.412	.427	1.009	.974	1.141
					114.96*	5	.082	1.507	.460	.507	1.149	1.044	1.187
						6	.107	1.474	.460	.496	1.144	1.061	1.191
						11	.084	1.434	.460	.486	1.152	1.091	1.186
						12	.054	1.623	.460	.498	1.157	1.070	1.183
16X16	SPIKE	488.	1.52	2000.									
					129.16	6	.099	1.511	.425	.483	.998	.879	1.130
						7	.108	1.487	.425	.468	.998	.907	1.134
						* 10	.081	1.545	.425	.426	1.020	1.017	1.119
						11	.077	1.481	.425	.466	1.009	.920	1.114

SUMMARY OF CE CHF TESTS

CASE		INLET			CONDITIONS AT CHF								
ARRAY	APD	TEMP	G	PRESS	Z	CH	X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	471.	1.02	2200.									
					129.16	6	.116	1.027	.343	.400	.998	.854	1.115
						7	.126	1.014	.343	.386	.998	.885	1.121
						* 10	.093	1.040	.343	.355	1.020	.984	1.101
						11	.088	.974	.343	.388	1.009	.890	1.093
					129.16	7	.126	1.014	.343	.386	.998	.885	1.121
						8	.163	.965	.343	.317	1.004	1.087	1.144
						9	.128	.988	.343	.357	1.004	.963	1.121
						* 10	.093	1.040	.343	.355	1.020	.984	1.101
					114.96	5	.033	1.036	.382	.471	1.149	.932	1.171
						6	.065	1.006	.382	.462	1.144	.947	1.176
						* 11	.038	.974	.382	.443	1.152	.993	1.170
						12	-.003	1.143	.382	.467	1.157	.946	1.167
16X16	SPIKE	505.	1.97	1740.									
					129.16	6	.114	1.970	.461	.476	.998	.967	1.157
						7	.122	1.937	.461	.459	.998	1.003	1.161
						10	.101	2.005	.461	.419	1.020	1.123	1.150
						* 11	.097	1.922	.461	.465	1.009	1.001	1.144
					114.96*	6	.087	1.938	.514	.539	1.144	1.090	1.192
						7	.092	1.911	.514	.526	1.144	1.116	1.193
						10	.066	2.028	.514	.487	1.157	1.220	1.189
						11	.068	1.886	.514	.521	1.152	1.135	1.188
					114.96*	5	.066	1.989	.515	.549	1.149	1.078	1.189
						6	.087	1.938	.515	.539	1.144	1.093	1.192
						11	.068	1.886	.515	.521	1.152	1.137	1.188
						12	.042	2.151	.515	.541	1.157	1.101	1.186
16X16	SPIKE	488.	1.98	2000.									
					129.16	6	.070	1.949	.523	.561	.998	.931	1.127
						7	.078	1.913	.523	.542	.998	.963	1.132
						10	.053	2.013	.523	.496	1.020	1.075	1.118
						* 11	.052	1.908	.523	.533	1.009	.990	1.114
					114.96*	5	.009	2.066	.584	.647	1.149	1.037	1.179
						6	.032	1.927	.584	.632	1.144	1.057	1.182
						11	.012	1.923	.584	.604	1.152	1.113	1.178
						12	-.020	2.137	.584	.630	1.157	1.072	1.175
16X16	SPIKE	465.	2.00	2400.									
					114.96*	6	-.066	2.092	.689	.744	1.144	1.059	1.168
						7	-.058	2.085	.689	.731	1.144	1.079	1.169
						10	-.099	2.104	.689	.659	1.157	1.208	1.164
						11	-.094	1.906	.689	.675	1.152	1.174	1.163
					114.96	5	-.098	2.041	.690	.731	1.149	1.085	1.163
						* 6	-.066	2.092	.690	.744	1.144	1.062	1.168
						11	-.094	1.906	.690	.675	1.152	1.177	1.163
						12	-.140	2.072	.690	.707	1.157	1.130	1.159
16X16	SPIKE	464.	1.98	2215.									
					114.96	5	-.052	2.027	.667	.707	1.149	1.083	1.169
						* 6	-.023	2.077	.667	.717	1.144	1.065	1.174
						11	-.047	1.895	.667	.656	1.152	1.171	1.169
						12	-.088	2.057	.667	.685	1.157	1.126	1.165
					114.96*	6	-.023	2.077	.665	.717	1.144	1.062	1.174
						7	-.016	2.070	.665	.703	1.144	1.083	1.175
						10	-.052	2.093	.665	.638	1.157	1.207	1.170
						11	-.047	1.895	.665	.656	1.152	1.168	1.169

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	452.	2.01	2000.									
					114.96	5	-.028	2.066	.664	.716	1.149	1.067	1.173
						* 6	-.003	2.119	.664	.722	1.144	1.052	1.178
						11	-.024	1.932	.664	.667	1.152	1.147	1.173
						12	-.060	2.094	.664	.694	1.157	1.108	1.169
					129.16	6	-.003	2.119	.595	.722	.998	.823	1.088
						7	.005	2.110	.595	.706	.998	.841	1.092
						* 10	-.029	2.133	.595	.643	1.020	.944	1.074
						11	-.024	1.932	.595	.667	1.009	.900	1.071
16X16	SPIKE	436.	1.99	1750.									
					129.16	6	.044	1.924	.567	.634	.998	.894	1.110
						7	.053	1.864	.567	.611	.998	.927	1.113
						* 10	.027	2.038	.567	.561	1.020	1.032	1.103
						11	.026	1.938	.567	.607	1.009	.943	1.099
16X16	SPIKE	459.	2.02	2000.									
					114.96	5	-.025	2.078	.649	.711	1.149	1.048	1.174
						* 6	.000	2.131	.649	.719	1.144	1.033	1.178
						11	-.021	1.944	.649	.663	1.152	1.127	1.173
						12	-.056	2.106	.649	.688	1.157	1.090	1.169
					114.96*	6	.000	2.131	.647	.719	1.144	1.031	1.178
						7	.007	2.098	.647	.700	1.144	1.058	1.179
						10	-.025	2.145	.647	.639	1.157	1.171	1.174
						11	-.021	1.944	.647	.663	1.152	1.124	1.173
					129.16	6	.042	1.967	.581	.617	.998	.941	1.110
						7	.052	1.913	.581	.593	.998	.978	1.114
						10	.024	2.081	.581	.550	1.020	1.079	1.103
						* 11	.022	1.974	.581	.591	1.009	.992	1.098
16X16	SPIKE	471.	1.96	1750.									
					129.16	6	.082	1.924	.513	.549	.998	.932	1.134
						7	.089	1.889	.513	.532	.998	.962	1.138
						10	.066	1.980	.513	.485	1.020	1.078	1.126
						* 11	.064	1.899	.513	.529	1.009	.977	1.122
					129.16*	7	.089	1.889	.513	.532	.998	.962	1.138
						8	.115	1.765	.513	.445	1.004	1.157	1.151
						9	.090	1.842	.513	.494	1.004	1.042	1.137
						10	.066	1.980	.513	.485	1.020	1.078	1.126
16X16	SPIKE	434.	1.01	2400.									
					129.16	6	.042	1.005	.379	.438	.998	.863	1.068
						7	.055	.985	.379	.421	.998	.898	1.074
						* 10	.015	1.051	.379	.393	1.020	.983	1.056
						11	.013	.989	.379	.422	1.009	.905	1.052
					114.96	5	-.060	1.037	.423	.520	1.149	.934	1.158
						6	-.024	1.073	.423	.521	1.144	.927	1.163
						* 11	-.055	.967	.423	.486	1.152	1.001	1.158
						12	-.107	1.041	.423	.507	1.157	.965	1.152
					114.96	6	-.024	1.073	.421	.521	1.144	.925	1.163
						7	-.016	1.071	.421	.513	1.144	.940	1.164
						10	-.062	1.069	.421	.467	1.157	1.044	1.158
						* 11	-.055	.967	.421	.486	1.152	.998	1.158

SUMMARY OF CE CHF TESTS

CASE ARRAY	APD	INLET TEMP	INLET G	PRESS	Z	CH	CONDITIONS AT CHF X	G	HEAT FLUX	CE1	F	MEAS PRED	TONG F
16X16	SPIKE	426.	1.01	2200.									
					129.16	6	.081	1.008	.381	.442	.998	.860	1.091
						7	.092	.992	.381	.427	.998	.890	1.097
						* 10	.055	1.028	.381	.394	1.020	.987	1.077
						11	.055	.978	.381	.425	1.009	.905	1.073
					114.96	5	-.013	1.052	.425	.526	1.149	.928	1.164
						6	.021	1.025	.425	.519	1.144	.938	1.169
						10	-.013	1.088	.425	.471	1.157	1.044	1.165
						* 11	-.008	.988	.425	.495	1.152	.989	1.164
16X16	SPIKE	412.	1.02	2400.									
					129.16	6	.024	1.027	.403	.461	.998	.872	1.059
						7	.037	1.000	.403	.443	.998	.909	1.065
						* 10	-.005	1.080	.403	.414	1.020	.992	1.048
						11	-.006	1.009	.403	.443	1.009	.917	1.044
					114.96	5	-.083	1.045	.450	.545	1.149	.948	1.155
						6	-.045	1.082	.450	.547	1.144	.941	1.161
						* 11	-.078	.973	.450	.510	1.152	1.016	1.155
						12	-.132	1.048	.450	.531	1.157	.979	1.149
					114.96	6	-.045	1.082	.449	.547	1.144	.939	1.161
						7	-.035	1.080	.449	.536	1.144	.958	1.162
						10	-.085	1.077	.449	.490	1.157	1.059	1.155
						* 11	-.078	.973	.449	.510	1.152	1.014	1.155
16X16	SPIKE	411.	.99	2000.									
					129.16	7	.133	.974	.389	.419	.998	.927	1.124
						8	.173	.921	.389	.342	1.004	1.142	1.148
						* 9	.135	.947	.389	.389	1.004	1.006	1.123
						10	.098	1.004	.389	.386	1.020	1.027	1.102
					129.16	6	.122	.989	.389	.434	.998	.894	1.117
						7	.133	.974	.389	.419	.998	.927	1.124
						* 10	.098	1.004	.389	.386	1.020	1.027	1.102
						11	.092	.966	.389	.426	1.009	.921	1.096
16X16	SPIKE	324.	1.01	1750.									
					129.16*	7	.129	.970	.472	.482	.998	.977	1.120
						8	.174	.904	.472	.395	1.004	1.201	1.148
						9	.131	.942	.472	.448	1.004	1.057	1.120
						10	.090	1.012	.472	.444	1.020	1.084	1.097